Polysemy and the Applicative Verb Construction in Chishona

Patricia Ruramisai Mabugu

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Abstract

This thesis explores the semantic and syntactic properties of the Chishona applicative construction. In particular, it explores the possibility of providing a polysemous analysis of the different semantic interpretations associated with the applicative suffix.

Applicative verbs in Bantu languages have been principally analysed as performing one function: to increase the valency of a verb, typically transitive, whose introduced argument is generally interpreted as a benefactive. Such an analysis does not, however, tell the whole story about the function of the applicative suffix, but rather less attention has been given to the semantic/pragmatic relation that exists between the applicative verb and its corresponding non-applied verb or between the applied construction and alternative constructions that involve adjunct phrases. The principal problem in making such comparisons is that there exist applicative objects that are not interpreted as benefactives.

Within the Bantu language ChiShona, spoken in Zimbabwe, there exists a number of other productive patterns with the applicative morpheme where the applicative object is interpreted as a maleficiary, motive, goal, locative and source, and where there may or may not be a change in the valence of the verb stem. Moreover, there are instances in which the applicative is associated with a completely idiosyncratic semantic contrast. Though these lexical pairs seem to be differentiated by the presence of the applicative suffix, they cannot plausibly be so analysed at least synchronically, since the semantics of the applicative verb differs considerably from that of its apparent morphological base. The fact that the applicative construction is associated with a wide variety of interpretations poses serious problems for unitary analyses of the construction by Bantu theorists and hence we find that no attempt has been made to account for the applicative in a unitary manner. Given this difficulty, analyses have generally postulated homonymous applicative forms, a

position that leads to a large amount of grammatical redundancy and misses significant generalisations. In order to avoid grammatical redundancy and capture the morpho-syntactic similarities between the different types of applicative, this thesis proposes that the different patterns and interpretations of the applicative construction are not distinct but result from polysemous extensions of a basic construction. I argue in this thesis that all the different interpretations associated with the applicative suffix are derived from a single semantic basic meaning: an underspecified (polysemous) *generalised goal relation.* The existence of these different interpretations highly motivates a unitary analysis. The analysis is couched within the theory of Head-Driven Phrase Structure Grammar (HPSG) (Sag and Wasow 1999, Pollard and Sag 1987, 1994) and utilises the theory of Type-based Derivational Morphology (TBDM) (Riehemann 1993, 1998). Using this theory it is shown that there is a very general set of properties associated with all applicatives and that particular instantiations can be derived from these within the lexicon. The elegance of HPSG is that it provides an analysis that caters for all the different instantiations of the applicative that are found in ChiShona without positing any exceptional rules. The thesis thus draws attention to the existence of other types of applicatives in ChiShona and provides a unitary account of them that is not obviously possible within other frameworks.

Declaration

I hereby declare that this thesis is of my own composition, and that it contains no material previously submitted for the award of any other degree. The work reported in this thesis has been executed by myself, except where due acknowledgement is made in the text.

Patricia Ruramisai Mabugu

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Abbreviations and Symbols

Text

AN	:	animate
AO	:	Applied Object
arg	:	argument
FOC	:	focus
HFP	:	head feature principle
HPSG	:	Head-driven phrase grammar
INAN	:	inanimate
LFG	:	Lexical Functional Grammar
LMT	:	Lexical Mapping Theory
LO	:	logical object
LPR	:	linear precedence rule
NP	:	noun phrase
Ø	:	no overt noun phrase/no object marker
OBJ	:	Object
PERF	:	perfective
PC	:	personal communication
P	:	preposition
PP	:	prepositional phrase
SVO	:	subject verb object
SUBJ	:	subject
V	:	verb
VP	:	verb phrase
VOS	:	verb object subject
VS	:	verb stem
TOP	:	topic

Glosses

agr	:	agreement
APPL	:	applicative
APPL-PASS	:	applicative-passive
ASS	:	associative
AUX	:	auxiliary
CAUS	:	causative
CON	:	conjunction
DEM	:	demonstrative
FV	:	final vowel
FUT	:	future
GEN	:	genitive
INDIC	:	indicative
INSTR	:	instrumental
NEG	:	negative
OM	:	object marker
PASS	:	passive
PASS-APPL	:	passive-applicative
PERF	:	perfective
3PL	:	third person plural
POSS	:	posessive
PRE	:	present
PST	:	past
Q	:	question
QUE FORM	:	question form
REC	:	reciprocal
REC PST	:	recent past
REFL	:	reflective
1SG	:	first person singular
2SG	:	second person singular
3SG	:	third person singular
SCCL	:	subject concord class
SM	:	subject marker
TNS	:	tense
*	:	ungrammaticality/unacceptability

Feature Structures

[ ]	:	*feature structure*
⟨ ⟩	:	list
⊖	:	minus
◯	:	shuffle(set union)
⊔	:	unification
x≪y	:	x precedes y
$\boxed{a}$	:	numbered boxes-token indentity
AVM	:	attribute value matrice
italics	:	*typed feature structures*
SMALL CAPITALS	:	attributes in a feature structure

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Chapter 1

Introduction

1.1 Introduction

This thesis explores the nature of the applicative construction within Chishona.[1] Although generally described as a valence increasing construction that introduces a benefactive argument, such a description fails to capture all the properties of the construction. There are many instances where the extra argument is not interpreted as a benefactive and there are examples where there is no increase in valence.

Traditionally, the applicative is analysed as increasing the valence of the base verb so that a new object is introduced. This effect is exemplified in the following sentence:[2]

(1.1) a. Mai Beatrice va-ka-gadzir-a ma-heu
1a-mother 1a name 2aSM-PST-prepare-FV 6-drink
'Beatrice's mother prepared a drink'

[1] Although in the linguistic literature the applicative construction is basically considered a prototypical Bantu construction it must be pointed out that it is a phenomenon found in other languages perhaps in a different guise. Danohue (1996) shows that Bajau, an Austronesian language mainly spoken in Indonesia, the Phillipines and Malaysia has applicative constructions. Shibatani(1996) also shows that Ainu and Japanese have applicative forms as well.

[2] Numbers in glosses refer to the noun classes. There is a link between pairs of prefixes whereby one is singular and the other is plural. Thus for instance, class 1 nouns marked by *mu-* have their plural form in class 2, marked by *va-*. All odd numbers are marked for singularity and even numbers are marked for plurality. However, this will be misleading if it is not pointed out that the singular-plural linkage is not as straightforward as suggested. There are nouns found in classes 15, 16, 17, and 18 which do not inflect for number, some nouns in class 3 are only singular and class 21 nouns have their plural forms in class 6. For more details on the discordance of singularity-plurality of Chishona see Mkanganwi(1995). Nouns like *amayi, sekuru, baba* and so on are found in subclass 1a and they control agreement in class 2a, which does not inflect for number but inflects for respect (Harford (1993) and Chimhundu (1996))

b. Mai Beatrice va-ka-gadzir-ir-a v-ana ma-heu
1a-mother 1a name 2aSM-PST-prepare-APPL-FV 2-child 6-drink
'Beatrice's mother prepared a drink for the children'

In example (1.1), the verb *gadzira*, 'prepare,' has been extended to form the applicative, *gadzirira*, 'prepare for'[3]. I will refer to the new argument within an applicative construction as the *applied object* (AO) in this discussion. In contrast, the argument which corresponds to the direct object in transitive sentences like (1.1a) (e.g.*maheu*, 'drink') will be called the *logical object* (LO), borrowing the term from Marantz (1993). We adopt this terminology because as pointed out by Bentley (1994) the term 'direct object' is ambiguous in Bantu languages as will be discussed at length in Chapter 2. The applied object within the applicative construction in example (1.1b) is interpreted as a beneficiary, and such examples have been analysed as prototypical applicative constructions.

Although Bantuists have realised that the applicative suffix does not only convey meanings related to a beneficiary but is used to express other meanings, none of the analyses proposed in the literature captures a unitary semantic contribution of the suffix. The studies that exist tend to emphasise the syntactic differences rather than concentrate on the similarities of the various interpretations. In other words, traditional analyses agree that because the applicative suffix introduces different semantic roles the different types brought about by the applicative morpheme should be treated as discrete elements.

In this thesis I will argue against a purely syntactic hypothesis since such analyses tend to miss significant generalisations. First, I provide evidence to show that the interpretation of the applicative object is not just beneficiary but that there are other interpretations as well, maleficiary, motive, goal, locative and source (for Chishona) which if accounted for independently from the beneficiary provide important evidence for the need to incorporate the semantic aspect of the applicative suffix. It is the existence of all these different types of applicative interpretations, I argue, that makes a unitary analysis inevitable.

[3]Like Port (1981), words like *gadzira* will be referred to as lexicalised/frozen forms. There is a historical connection with the other applicatives to be discussed in this thesis.It must be noted that these forms with the single applicative morpheme has no extra argument added onto it. This is only possible with an addition of another applicative form. More will be said in chapter 4. Other words which behave like this are *mira, kavira, gachira, kumbira*,'wait,plant,receive,ask' respectively

Second, I argue that though Chishona may on the surface have different interpretations associated with the same applicative suffix, these are all derived from a single semantic basic meaning:an underspecified (polysemous) generalised goal relation. I will propose a uniform semantic-syntactic treatment which results in a reduced and more elegant explanation of the applicative construction than previous analyses have done.

As a model of grammar, I adopt the framework of HEAD-DRIVEN PHRASE STRUCTURE GRAMMAR (HPSG) (Pollard & Sag (1987,1994), Sag & Wasow (1999)) which unlike Principles and Parameter (Baker (1988)) or Lexical Mapping Theory (Bresnan & Moshi (1990)) does not involve movement or mapping respectively, but uses the multidimensional nature of the HPSG *sign* which allows for a flexible accommodation of both syntactic and semantic aspects of the applicative construction and a *type hierarchy* in constructing the lexicon. The implementation of HPSG grammar will show that the notions of a *sign* and *type hierarchies* are essential in capturing the morpho-syntactic similarities between the different types of applicative which other theories cannot possibly do since the other theories are interested in showing the asymmetries of the applicative constructions.

1.2 Data to be used in this thesis

Data in this thesis comes from Chishona, an SVO Bantu language mainly spoken in Zimbabwe[4] and in some surrounding countries.[5] Chishona has a complex inflectional and derivational system, showing agglutinative morphology and using affixation as a major mechanism for word formation.

As in other Bantu languages, Chishona nouns are divided into several classes, based on the noun prefix.[6] Noun prefixes determine the form of the subject-verb agreement, object-verb agreement and qualitative agreement. Of interest here, Chishona verbs may be extended by means of one or more verbal suffixes to form semantically

[4]Chishona has several dialects which include Chikaranga, Chizezuru, Chikorekore, Chindau, Chimanyika and Chikalanga (Ikalanga). Chishona is primarily a written language based on ChiKaranga and ChiZezuru with lexical items also from ChiManyika and ChiKorekore. Within the dialects there are subdialects: Karanga: Duma, Jena, Mhari (Mari), Ngova, Nyubi, Govera; Korekore: Budya, Gova, Tande, Tavara, Nyongwe, Pfunde, Shan Gwe; Zezuru: Shawasha, Gova, Mbire, Tsunga, Kachikwakwa, Harava, Nohwe, Njanja, Nobvu, Kwazwimba (Zimba) ; Shona: Toko, Hwesa. Rozvi (Rozwi, Ruzwi, Chirozwi) speak Karanga dialect and do not have their own language (Grimes (1996)). In this thesis I will use data from standard Chishona.

[5]Also spoken in Zambia, Malawi and Mozambique (Grimes 1996)

[6]Fortune (1984), Pelling & Mujombi (1993), Chimhundu (1996), Hannan (1996) and many others

and syntactically complex verb forms. In other words, extensions have the effect of producing more complex predicates than the simple mono-morphemic verbs have prior to the extension (Mugane (1997)). The suffix to be explored in this thesis is the applicative morpheme.

A number of grammarians have described the applicative phenomenon in Chishona, including (Doke (1954) and Fortune (1955, 1967, 1984)) [7]. All these traditional grammarians concentrate on the surface phonological and the meaning changes brought about by the suffixation of the morpheme. Hawkinson & Hyman (1974) discuss the syntactic aspects of the applicative construction from a functional perspective, noting carefully, the syntactic function of the suffix and how animacy influences the syntactic patterns of applicative objects. Harford (1993), working in a different theoretical framework, discusses the Chishona applicative in terms of mapping theory. Her main interest and contribution is to implement the mapping theory on Chishona data rather than focus on the syntactic properties or semantic properties of the applicative construction. This thesis differs from these traditional approaches and accounts for all the syntactic and semantic properties of ChiShona applicative constructions.

1.3 Argument structure and verbal morphology in ChiShona

1.3.1 The applicative and other extensions

ChiShona, just like other Bantu languages, has many suffixes, which in general are involved in the determination of expressible noun phrase (NP) arguments within the sentence with the morphological modification of the verb. Verbal morphology within Bantu languages encodes various aspects of grammatical information. In many languages, the verb prefixes encode information pertaining to morphosyntactic categories such as negation, tense and aspect, agreement (subject or object) , modals and so on. The verb suffixes on the other hand, encode information relating to the argument structure and the different semantic roles associated with the various arguments of the verb (Mchombo (1999)). Bantu languages have a number of verbal suffixes, also referred to in the literature as verbal extensions,[8] including, *inter alia* , the applicative, causative, passive, reciprocal, neuter, stative, contactive,

[7] See also Fivaz (1970), Fivaz & Ratzlaff (1975)

[8] (Guthrie (1962), Fortune (1984b), Dembetembe (1987), Demuth (1998) Katupha (1991), Matsinhe (1994), Ngunga (1997), Rugemalira (1993b), Satyo (1985)

extensive, intensive, perfective, repetitive.[9] The suffix occurs in a position after the verb stem and before the final vowel (which is a stem forming element). Some of the extensions can have a transitivising effect (applicatives and causative) or a detransitivising effect (passive, neuter). Constructions involving some of these are given below:

(1.2) a. Tanga a-ka-vedzeng-a nyama
1a-name 1SM-PST-slice-FV 9-meat
'Tanga sliced meat'

b. Tanga a-ka-vedzeng-er-a Pio nyama
1a-name 1SM-PST-slice-APPL-FV 1a-name 9-meat
'Tanga sliced meat for Pio '

APPLICATIVE

c. Tanga a-ka-vedzeng-es-a Pio nyama
1a-name 1SM-PST-slice-CAUS-FV 1a-name 9-meat
'Tanga made Pio slice meat'

CAUSATIVE

d. Nyama ya-ka-vedzeng-w-a na-Pio
9 meat 9SM-PST-slice-PASS-FV by-1a-name
'The meat was cut by Pio'

PASSIVE

e. Kundishora na-Vimbai va-ka-sek-an-a
1a-name CON-1a-name 2SM-PST-laugh-REC-FV
'Kundishora and Vimbai laughed at each other'

RECIPROCAL

As can be seen from the above, the suffixes attach after the verb stem yielding a complex verb with a different meaning, such as the applicative marker -(V)r in (1.2b), the causative marker -(V)s in (1.2c), the passive marker -(V)w in (1.2d) and the reciprocal marker -an- in (1.2e). V is an underspecified vowel, the specification of which is determined by vowel harmony (see chapter 2).[10]

The applicative suffix may appear in combination with other suffixes:

[9]Some of the suffixes are not in such frequent use as others. Research needs to be done to see which suffixes are no longer that much used. As pointed out by Fortune (1984), the contactive, extensive and stative are not frequently in use in Chishona.

[10]For more details on the structure of the verb stem in terms of its structure and its relation to the various extensions the reader is referred to Myers (1987,1994), Mchombo (1999).

(1.3) a. Vimbai a-ka-bik-ir-w-a sadza na-mai
1a-name 1SM-PST-cook-APPL-PASS-FV 5-sadza by-1a -mother
'Sadza was cooked for Vimbai by mother'
APPL-PASS

b. Kundishora na-Anotida va-ka-teng-er-an-a zvi-nyoreso
1a-name CON-1a-name 2SM-PST-buy-APPL-REC-FV 8-pen
'Kundishora and Anotida bought pens for each other'
APPL-REC

c. Kundishora na-Anotida va-ka-teng-es-er-a Beatrice mi-chero
1a-name CON-1a-name 2SM-PST-buy-CAUS-APPL-FV 1a-name 4-fruit
'Kundishora and Anotida sold fruits for Beatrice'
CAUS-APPL

Depending on the suffix used in combination with the applicative suffix, ordering of the suffixes is not free but is fixed to occur in a certain order. This thesis will partially deal with the constraints associated with such ordering restricting the discussion to the relationship between the applicative and the passive. The other orderings, though interesting, are beyond the scope of this thesis.

1.4 Organisation of the thesis

The broad goal of the thesis is to show how the different syntactic patterns and semantic interpretations associated with the applicative suffix are all derived from a single semantic structure. Chapter 2 is an introduction to the prototypical applicative constructions, that is, applicative constructions in which the applied object has a beneficiary interpretation. The chapter also focuses on the morphological and the syntactic effects of the applicative suffix, which is the modification of a simple verb and formation of a complex predicate. Moreover, the chapter shows that both the applied object and the logical object have direct object properties. The chapter also highlights the fact that object marking and passivisation in Chishona is not governed/determined by animacy unlike in some Bantu languages. The importance of this chapter, however, lies in showing that the behaviour of the two objects associated with the applicative constructions in Chishona is not only sensitive to grammatical constraints but also sensitive to pragmatic/discourse factors. Because of the influence of animacy, two syntactic patterns are discernible in conjunction with Chishona applicative constructions.

Chapter 3 surveys the literature on applicative constructions within Bantu languages showing that we mainly have two schools of thought which have provided a formal analysis of the applicative construction. This chapter highlights the advantages and shortcomings of these two schools of thought. What emerges from this literature review is that despite differences in formalisation and basic assumptions all previous formal analyses of applied verbs agree on the fact that applicative constructions entail an increase in valency in correspondence to the base verb. Traditional literature over-emphasises the syntactic functions of the applicative suffix at the expense of its semantic function.

The main contribution of this thesis is found in Chapter 4, in which I develop an analysis of the applicative construction. Chapter 2 and 3 will set out the nature and scope of the work explaining the properties of a prototypical applicative construction and how they have been analysed in the literature. Chapter 4 presents a study of the different meanings that the applicative suffix with different verbs can convey in the language under investigation. It further explores how the polysemous senses of the applicative are obtained. Data found in this chapter will be used in support and illustration of the hypothesis that all the different interpretations associated with the applicative are not distinct but are an instantiation of a single semantic structure which depending on the context, the meaning of the predicate, or the meaning of the applied object gives the different interpretations. This chapter shows that the different interpretations found with applicative constructions are systematically related to each other and should not be analysed as discrete elements.

The basic theoretical assumptions in this thesis belong to the framework of HPSG. The main theoretical and methodological principles of this model relevant to an analysis of the applicative are explained in Chapter 5.

This thesis presents a novel HPSG analysis of the Chishona applicative construction. Chapter 6 formalises all the properties associated with applicative constructions within Chishona, showing how all the different instantiations associated with the applicative suffix are derived from the lexicon. The organisation of the HPSG *signs* allows for a flexible account of the semantic and syntactic patterns of the applicative construction. This chapter will show that a small set of constraints are enough to account for a wide range of data observed in this thesis. There is an interaction of different constraints which neatly accounts for the applicative construction within Chishona. Because of the flexibility of HPSG we are able to give an elegant account

of the different syntactic patterns of the applicative construction found in Chishona and also give a single semantic interpretation of the different interpretations conveyed by the applicative suffix.

Chapter 7 provides concluding remarks of the thesis.

Chapter 2

The Prototypical Applicative Construction

2.1 Introduction

Applicative constructions have supplied a field of research in comparative syntax to explain the occurrence of object asymmetries and symmetries in Bantu languages. In this chapter, I give an outline of what are termed prototypical applicative constructions. Applied verbs in Bantu languages are generally analysed as licensing a new object noun phrase (NP) within the subcategorisation of their base verb, triggering a change in valency resulting in the introduction of an additional NP in the clause headed by the applied verb. This involves a morphological operation that increases the valency of the verb stem and assigns an interpretation of benefactive to the new argument, resulting in a double object construction[1]. In other words, in these examples the applicative form has one more object than the corresponding base form.

Studies of applicative constructions, beside showing that the added applied object is additional in nature and interpreted as a beneficiary, have also accounted for syntactic properties associated with the applied object. In this respect, Bantu languages tend to split into two types of languages according to the syntactic behaviour of the objects. In what has been referred to as an *asymmetrical* type, only one of the two postverbal NPs exhibits the direct object syntactic properties of passivisability, object marking on the verb and adjacency to the verb. In another type, referred to as *symmetrical*, the two objects display direct object syntactic properties simultaneously (Bresnan & Moshi (1990:47)). This dichotomy, as will be seen in Chapter 3, is motivated on purely syntactic grounds. However, the behaviour

[1]SeeDoke (1954), Fortune (1955), Guthrie (1962), Kunene (1987), Baker (1988,1992,1995), Bresnan & Moshi (1990), Alsina & Mchombo (1990), Demuth, Machobane & Moloi (2000).

of double objects is not only sensitive to grammatical constraints as the dichotomy suggests, but also to pragmatic/discourse factors[2]. We find that within ChiShona, animacy plays a significant role in the behaviour of double objects. In this chapter, beside giving the basic characteristics of the ChiShona applicative benefactive construction, I consider how such pragmatic/discourse factors like animacy influence the behaviour of the two post-verbal NPs.

This chapter sets out the nature and scope of the work to be studied in the thesis by describing prototypical applicative constructions within ChiShona and showing how animacy complicates what seems to be on the surface a symmetrical behaviour of the objects. In order for this task to be achieved, this chapter has six remaining sections. Section 2.2 gives a general morphosyntactic description of the applicative construction, focusing on its morphological features and concentrating on the syntactic effect of the applicative morpheme. Section 2.3 focuses on verb classes and section 2.4 concentrates on the object properties of the applicative arguments and concludes that both objects have the same syntactic properties *modulo* animacy effects which, as is seen in section 2.5 induce certain effects on constituent order. Finally, section 2.6 summarises the chapter.

2.2 The morpho-syntactic aspects of the applicative construction

This section provides a description of the morphology and the syntactic aspects of the applicative morpheme. ChiShona, just like other Bantu languages, has an applicative suffix which licenses a new object which could be otherwise expressed as an oblique, or not expressed at all. The section focuses on how a change in the morphology of a verb (through verb suffixes) affects its syntactic output. The applicative process typically affects a transitive verb and hence results in the formation of double object constructions like the following English benefactive construction illustrated in 2.1:

(2.1) Emmanuel baked Juliet some biscuits

As pointed out by Marantz (1993) what informally distinguishes such extensions is the appearance of two noun phrases NP in a single surface clause without any morphological markers like adpositions. Previous analyses of Bantu applicative

[2]See(Hawkinson & Hyman 1974), (Morolong & Hyman 1977) and (Mchombo & Firmino 1999)) for the interaction of syntax and semantic/discourse factors

verbs have been mainly concerned with examples where the applied form has one more object than the corresponding base form as seen in the following examples:

(2.2) a. Ma-dzimayi a-ka-nhong-a donje
6-woman 6SM-PST-pick-FV 5-cotton
'Women picked cotton'

b. Ma-dzimayi a-ka-nhong-er-a mu-rimi donje
6-woman 6SM-PST-pick-APPL-FV 1-farmer 5-cotton
'Women picked cotton for the farmer'

The main difference between (2.2a) and (2.2b) is that within the applicative construction in (2.2b) a new benefactive NP, *murimi*, 'farmer', has been introduced into the VP headed by *nhongera*, 'pick-APPL'. As can be seen in example (2.2a) the verb *nhonga*, 'pick', is used with one object in its transitive form, but it appears with two objects in its applied form as in (2.2b) nhongera 'pick for', a ditransitive usage[3]. The example given in (2.2b) illustrates the prototypical use of the applicative suffix, namely the introduction of the beneficiary object. Such examples have provided the focus of theoretical analyses and leads to the view that applicatives are essentially a valence increasing operation.

In addition, the introduction of the new object coincides with the appearance of the applicative suffix, in the verbal morphology. If the affix is left out, this results in an unacceptable sentence as illustrated in sentence (2.3):

(2.3) *Ma-dzimayi a-ka-nhong-a mu-rimi donje
6-woman 6SM-PST-pick-FV 1-farmer 5-cotton
'The women picked cotton for the farmer'

Given this unacceptable sentence, one can deduce that an applicative construction is a typical double object construction, since the derived verb subcategorises for two objects. This is only possible by introducing an applicative morpheme[4].

[3]Classes 1a, 5, 9, 10 and 17a are marked by an absence of a syllabic prefix. Most noun classes are syllabic in nature characterised as consonant-vowel phonological structure. Those morphemes and allomorphs that are never syllabic though morphologically distinct from each other are all represented by /θ/ but in this thesis the use of number is enough to identify these non-syllabic classes. How these three fall in different classes has to do with their agreement patterns and to a certain extent their meaning. For more details on the classification of nouns in ChiShona one is referred to Fortune (1984), Mkanganwi (1995).

[4]This formation of double object constructions also happens with the addition of a causative morpheme

From the above, it can be seen that applicative verbs are morphologically marked, related to the corresponding base forms by a process which is traditionally described as transitivising in nature[5].

2.2.1 Morphology

Analysing verbs in Bantu languages entails a tripartite distinction: the simplex, the complex and the extended radicals (Guthrie 1962). The simplex is the minimal radical consisting of the simple root; the complex is a root plus a fossilised suffix, that is to say a suffix which is unanalysable; and the extended radical is a derived verb with an analysable suffix. These are significant distinctions used in handling complexities associated with verb derivations (Khamisi (1985)). The fossilised ones are what are referred to as verbalisers by Fortune (1984b). The difference between the two complex type of verbs is that the extended type verbs form new words by 'changing the meaning of the base to which they attach' (Katamba (1993:47)). This does not change the category of the verb. On the other hand, the fossilised type changes the word category that the verb belongs to. In this thesis, I am concerned with the class that does not change category but changes the meaning of the base that it attaches to, the extended radicals.

Whether these extensions are inflectional or derivational has engaged Bantuists for some time. Since defining the concepts of derivation and inflection is a problem, I will not strive to give a definition of the terms. Following Mchombo (1999) and Mkanganwi (1995), I shall treat as derivational all suffixes that alter the meaning of the stem to which they are attached, creating new lexical items or words that name different kinds of events. This includes suffixes that involve a change in the number of arguments that a word subcategorises for, which is the focus of this thesis, as illustrated in (2.4) and (2.5) below:

(2.4) a. Tanga a-ka-vedzeng-a nyama
1a-name 1SM-PST-slice-FV 9-meat
'Tanga sliced meat'

[5]Many traditional Bantuists use the term 'applied', in such works as Doke (1954, 1973), Fortune (1955, 1967), Fortune (1984), Hawkinson & Hyman (1974), Fivaz & Ratzlaff (1975) and most generativists use the term 'applicative', which seem to have been popularised by Bresnan & Moshi (1990), then adopted by Alsina & Mchombo (1992) and Harford (1993). There seems to be no theoretical basis for the use of either of the forms though one can just make an impressionalist supposition that generativists tend to use words with -icative. There seems to be no particular reason for the change in terminology

b. Tanga a-ka-vedzeng-er-a Pio nyama
1a-name SM-PST-slice-APPL- FV 1a-name 9-meat
'Tanga sliced meat for Pio'

(2.5) a. Kundishora a-ka-umb-a hari
1a-name SM-PST-mould-FV 9-clay pot
'Kundishora molded a clay pot'

b. Kundishora a-ka-umb-ir-a Anotida hari
1a-name 1SM-PST-mould-APPL-FV 1a-name 9-clay pot
'Kundishora molded a clay pot for Anotida'

As can be seen from the examples, the applicative morpheme in ChiShona is marked by /-er-/ and /-ir/ and cognates of this are found in other Bantu languages.[6]

Umba 'mold' for example has been extended to form the applicative umbira 'mold for.' As can be seen from the above data, the way the applicative is realised varies slightly. Morphologically, the applicative in ChiShona is characterised by the presence of/-er/ or /-ir-/ in the verb root. The morphophonemic principles governing the correct shape of the suffix are governed by the vowel within the stem that the suffix is being attached to, a process referred to as vowel harmony. In ChiShona, /-er-/ appears when a vowel of the verb penultimate is [e] or [o] and /-ir-/ everywhere else[7]. In other words, the choice of a vowel is determined by vowel harmony. This phenomenon for applicative forms is schematised in the following phonological rule for ChiShona, as exemplified in (2.6) and (2.7).

[6]Ngonyani (1996) gives the impression that all Bantu languages are marked by /-il-/ for their applicatives. But as noted it has cognates as shown in the literature. The applicative for Kiswahili is -e- or -i-; Ngonyani (1996,1998), in Chichewa it is -ir- and -er- Bresnan & Moshi (1990) and Mchombo (1999), in Gitonga it is -l-; Mchombo & Firmino (1999), Kinyarwanda it is -ir- or -er- ; Kimenyi (1980) and in Tsonga it is -il- or -el-; Matsinhe (1994). This indicates that the different Bantu languages have different forms which are historically linked. They can be traced back to Proto-Bantu and the applicative may have been marked either by -l- or -r-.

[7]Fortune (1984), Fivaz & Ratzlaff (1975), Pelling & Mujombi (1993) and Harford (1993).

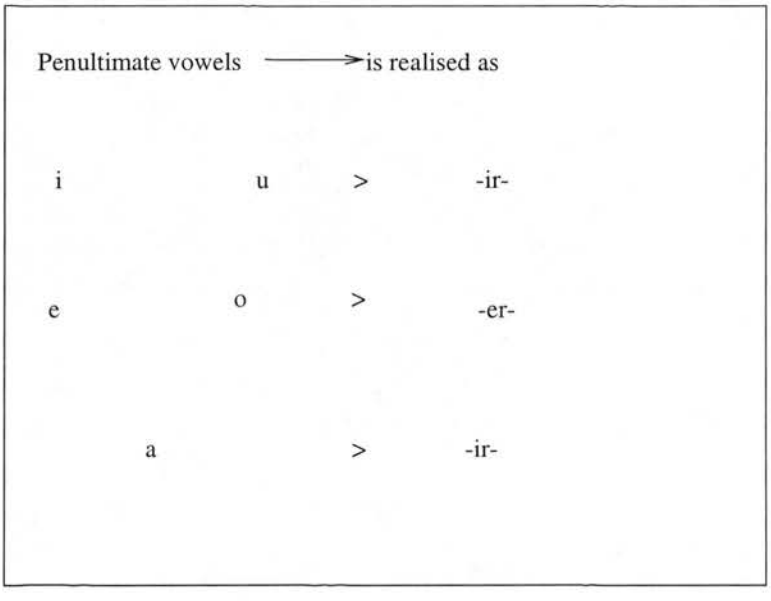


Figure 2.1: The realisation of the applicative suffix in ChiShona

(2.6) The ending -ira is used:

a. *for monosyllabic verbs*

i. -fa (die) → -fira (die for)
-tya (fear) → -tyira (fear for)

ii. -nwa (drink) → -nwira (drink out of/drink for)
-wa (fall) → -wira (fall to)

b. *for verbs with i, a or u in the penultimate syllable*

i. -bika (cook) → -bikira (cook for)
-gadzira (prepare) → -gadzirira (prepare for)
-shanda (work) → -shandira (work for)

ii. -bvuma (agree) → -bvumira (agree to)
-sara (remain) → -sarira (remain at)
-taura (speak) → -taurira (speak to)

(2.7) The ending -era is used:

a. *for verbs with e or o in the penultimate syllable*

i. -geza (wash) → -gezera (wash for)
-sona (sew) → -sonera (sew for)
-tenga (buy) → -tengera (buy for)

ii. -dzoka (return) → -dzokera (return to)

The morphological shape of the extension is described as *vowel consonant* (VC), with V representing [-i-] or [-e-]. Jefferies (1998) and Myers (1987, 1994), have put forward the hypothesis that given the -s- and -w- to mark the causative and passive extensions, the vowel is only needed for phonotactic reasons not lexical identification. Of all the extensions found in ChiShona, the passive and the causative are the only extensions which have a consonant variant, especially in the Chizezuru dialect where the 'contracted'C forms seem to be widely used (Fortune 1984*b*). The passive and the causative appear as -w- and -s- if and only if the immediately preceding sound can combine with it (or replace it) to form a syllable onset, and so long as the derived stem does not yield a monosyllabic word. As Jefferies (1998:15) concludes 'for the lexical identification of **iC/eC** allomorphs, all you need is a consonant.'

This in other words shows that after a re-look at the vowel usage in this context one can say that its function is to enable pronunciation. Analysing the causative and passive usage as done below, one will agree with this conclusion:

(2.8) a. The extension -w- :

- -sungiwa/sungwa 'be tied, arrested' sunga 'tie, arrest'(Jefferies 1998)
  -batiwa/-batwa 'be held' bata 'hold, touch'(Mkanganwi 1995)

b. The extension -s-

- -mukisa/mutsa 'make awake' muka 'wake'
  -sekesa/setsa 'make to laugh' seka 'laugh'

The conclusion to be drawn from such examples is to suggest that the applicative morpheme is underlyingly -r- since the vowel is there to enable in pronunciation. To summarise from the above discussion, we can see that the applicative is formed by suffixing [-Vr-] to different types of verbs. The quality of the vowel in the affix is determined by the height or openness of the vowel in the preceding stem as *e* or *i*. Hence ChiShona has two applicative allomorphs which may be reducible to a single morpheme -r- if Jefferies (1998) and Myers (1987, 1994) are correct.

2.2.2 The syntax of ChiShona double object applicatives

The section on morphology implies that any applicative morphological modification of the verb stem results in changes in the syntactic realisation of arguments associated with a stem. This section gives a brief outline of the syntactic characteristics of the beneficiary applicative construction as is given in the literature on applicative constructions. Most analyses assume that the prototypical applied function expresses a change in valency and try to capture the syntactic aspect of this.

Valency increasing effect of the applicative suffix

Applicative constructions involve verbal suffixes that have the property of increasing the number of the internal arguments that the verb selects. In the case of a transitive verb, adding the applicative suffix renders the verb ditransitive (hence the notion 'double object' constructions). The additional object is typically interpreted as a beneficiary. The applicative suffix is a derivational suffix that attaches in the lexicon

and adds an argument of some kind to the argument structure of the base verb, [8] as illustrated below:

(2.9) $\text{verb}\langle \text{arg}_1 ... \text{arg}_n \rangle \longrightarrow \text{verb-appl} \langle \text{arg}_1, ... \text{arg}_n, \text{arg}_{n+1} \rangle$

From the above it can be seen that the applicative is formed by introducing a new argument (+1) which is obligatory, into the array of arguments (represented by the angled brackets), which represents the arguments that are lexically encoded by the given base verb. In the majority of cases, the applicative extension is associated with an obligatory argument not found with the base verb. Consider the examples below. where (2.10a) is the transitive form of the verb *bata*, 'hold', and (2.10b) is the applicative *batira*, 'hold for':

(2.10) a. Beatrice a-ka-bat-a hari
1a-name 1SM-PST-hold-FV 9-clay pot
'Beatrice held the clay pot'

b. Beatrice a-ka-bat-ir-a Vimbai hari
1a-name 1SM-PST-hold-APPL-FV 1a-name 9-clay pot
'Beatrice held a clay pot for Vimbai '

(2.11) a. Mai Bea va-ka-gez-a mw-ana
1a-name 2aSM-PST-wash-FV 1-child
'Bea's mother bathed a child'

b. Mai Bea va-ka-gez-er-a Stella mw-ana
1a-name 2aSM-PST-sing-APPL-FV 1a-name 1-child
'Beatrice's mother bathed a child for Stella '

The verbal affixes *-ir-*or *-er-* allow the verbs *batira*, 'hold for' and *gezera*, 'bath for' respectively, to have another argument in addition to the logical object. Because of this additive nature of the applicative suffix, Guthrie (1962) has designated such a function O+ (which indicates an increase of grammatical objects). Bantuists have come to a general consensus that because of this increasing function the applicative is transitivising in nature[9]. The applicative suffix is hence a valency increasing morpheme as in (2.10-2.11) the syntactic valence of the predicate in (2.10-2.11a) is two in comparison to (2.10-2.11b) in which there is a surface syntactic valence of three.

[8] Baker (1988, 1992), Bresnan & Moshi (1990), Alsina & Mchombo (1992, 1993), Harford (1993) and Mchombo (1999).

[9] See Machobane (1989), Rugemalira (1993b), Wald (1993), Hoffman (1995) and Trithart (1983) for such a conclusion.

As is clear from the examples above, the prototypical applied object is human and (as will be shown in section (2.4)) syntactically it has direct object properties. Traditional analyses of applicatives show that the productive usage of the applicative is when it introduces the beneficiary reading. It is not surprising that in the analysis of the applicative constructions, beneficiary is used synonymously with the applicatives[10]. Moreover, in ChiShona itself the meaning of the applicative suffix as given by Chimhundu (pg. xxiii) (1996) is, *Rebeso yokuitira.* This can be literally translated to an "extension which indicates an action performed for or on behalf of someone". That is why most ChiShona grammars conclude that the applied extension expresses an action done for someone or something[11]. This is because actions are typically performed for the benefit of human beings. However, as will be shown in section 2.5 inanimate beneficiaries are possible.

Another role that is assumed to be prototypical with applicative morphemes is the instrumental role (see Baker (1988), Alsina & Mchombo (1993). Unlike other Bantu languages, ChiShona does not have instrumental applicatives (Harford (1993), Wald (1997), Rugemalira (1993)) constructions.

(2.12) a. *Baba va-ka-uray-ir-a dombo nyoka
1a-father 2aSM-PST-kill-APPL-FV 5-stone 9-snake
'Father killed a snake with a stone'

b. Baba va-ka-uray-a nyoka ne-dombo
1a-father 2aSM-PST-kill-FV 9-snake INSTR-5-stone
'Father killed a snake with a stone'

Instrumental

For more examples see Harford, where she gives evidence to show that the absence of instrumental applicatives is not an idiosyncratic property of just a particular verb. The reason for the absence, as suggested by Larry Hyman to Harford is perhaps based on the fact that ChiShona has causative instrumentals and hence blocks the applied ones as illustrated below (Harford (1993:97)):

(2.13) a. Baba va-ka-uray-a nyoka
1a-father 2aSM-PST-kill-FV 9-snake
'Father killed a snake'

[10]cf (Demuth 1998), (Hoffman 1995) (Kunene 1987)

[11]For such arguments see Pelling & Mujombi (1993), Fortune (1984b), Fivaz & Ratzlaff (1975) and Hawkinson & Hyman (1974)

b. Baba va-ka-uray-is-a dombo nyoka
1a-father 2aSM-PST-kill-CAUS-FV 5-stone 9-snake
'Father killed a snake with a stone'

Instrumental

Instrumentals are thus formed in ChiShona with a causative morpheme. As suggested by Emanatian (1989) instrumental applicatives might be excluded on semantic grounds. Though this might be the case as pointed out by Caroline Heycock (personal communication(pc)), this might not be so if one considers that there are other Bantu languages which have instrumental applicatives. Within ChiShona as suggested to me by Benji Wald (pc) instrumental applicatives might have been present in ChiShona but have been replaced by causatives. This can be seen from relics of deverbalised nouns since we have examples which still have an instrumental connotation though they occur with the causative counterpart as illustrated below.

(2.14) a. chi-dziv-ir-o
7-stop-APPL-FV
'stopper'

b. chi-dziv-is-o
7-stop-CAUS-FV
'stopper'

Hannan (1996:64)

(2.15) a. chi-kwidib–ir-o
7-cover-APPL-FV
'cover'

b. chi-kwidib-is-o
7-cover-CAUS-FV
'cover'

Chimhundu (pg62) (1996)

(2.16) a. chi-tsig-ir-o
7-support-APPL-FV
'something to support with'

Hannan (1996:96)

b. chi-tsig-is-o
7-support-CAUS-FV
'something to support with'

The applied forms above seem to be optional alternatives/synonyms of the causative form which is in frequent use.

To summarise from the above discussion, we can see that the applicative is formed by suffixing either V-r to transitive verbs. As a result of this morphological operation, an object referred to as AO is added, hence increasing the valency of the verb by one. Syntactically, the function of the applicative suffix is to increase the valency of the base verb. In addition, the AO is typically interpreted as a beneficiary. ChiShona systematically excludes instrumental applicative.[12]

2.3 Verb classes and applicative arguments

From the preceding sections it was concluded that the applicative increases the valency of the verb by one. Applied verbs can be formed from transitive verbs as in (2.10-2.11) as well as from intransitive verbs (Fortune (1955) and Fortune (1967)) and ditransitive verbs. Adding an applicative morpheme to an intransitive stem results in a derived transitive, a transitive becomes a derived ditransitive and a ditransitive becomes a tritransitive.

2.3.1 Intransitives and applicative arguments

Intransitive verbs have been hypothesised to split into two classes with the type of applicative argument that they take, and this has been used as a diagnostic test for distinguishing **unaccusative** verbs (verbs that take a non-agentive subject) from **unergative** verbs (verbs that take an agentive subject).[13] Unaccusative verbs are concluded to take locative arguments (Machobane (1989) chapter1) as opposed to unergative verbs that take a benefactive argument as illustrated below:

(2.17) a. Nhiki a-ka-f-a
1a-name 1SM-PST-die-FV
'Nicholas died'

[12]The lack of instrumental applicatives is not only peculiar to ChiShona. As shown byRugemalira(1993:68) other Bantu languages like Runyambo, Ruhaya, Runyankore, Lunganda and Kinyarwanda also mark their instruments with a causative suffix rather than with an applied suffix.

[13]Unaccusative verbs have been argued to be verbs whose surface subject corresponds to an underlying object. This is stated in the **unaccusative hypothesis** associated with Perlmutter & Postal (1983) and Burzio (1986) and these are exemplified by verbs like *arrive, burn* while unergatives have a single subject argument as exemplified by *walk, run.* It must be pointed out that verbs in different languages behave differently and that sometimes the translation of what is termed in one language as unaccusative might not necessarily have the same properties in another language.

b. Nhiki a-ka-f-ir-a nyika y-ake
1a-name 1SM-PST-die-APPL-FV 9-country 9-his
'Nicholas died for his country'

(2.18) a. Mhandara dza-ka-tamb-a
9-virgin 10SM-PST-dance-FV
'Virgins danced'

b. Mhandara dza-ka-tamb-ir-a i-she
9-virgin 10SM-PST-dance-APPL-FV 1a-chief
'Virgins danced for the chief'

(2.19) a. Ma-*comrades* a-ka-rw-a
6-freedom fighter 6SM-PST-fight-FV
'Freedom fighters fought'

b. Ma-*comrades* a-ka-rw-ir-a *povho*
6-freedom fighter 6SM-PST-fight-APPL-FV 10-people
'Freedom fighters fought for people'

Although it is hypothesised by Machobane (1989) that unaccusatives cannot have beneficiary applied objects, we find that within ChiShona it is possible to have unaccusatives with beneficiary interpretations as illustrated in examples (2.21-2.22)[14]:

(2.21) a. Mvura i-no-vir-a
9-water 9SM-PRES-boil-FV
'The water is boiling'

b. Mvura i-no-vir-ir-a baba
9-water 9SM-PRES-boil-APPL-FV 1a-father
'The water is boiling for father' (For his afternoon tea)

[14]The use of unaccusatives with beneficiary interpretations is also true for a language like Ikalanga (spoken mainly in Botswana as well as in Zimbabwe) as indicated by Letsholo (2001). Ikalanga it must be pointed out is also considered to be a dialect of ChiShona. It is the least studied of the ChiShona dialects. This dialect is mainly spoken in the southern part of Zimbabwe which is mainly a Sindebele area. Ikalanga though closely related to ChiShona can be described as a mixture of Sindebele and some ChiShona dialect. It is considered to be closely related to the Chikaranga dialect. Letsholo gives the following cognates which are also acceptable:

(2.20) a. Vula i-no-bil-a
9-water 9SM-PRES-boil-FV
'The water is boiling'

b. Vula i-no-bil-il-a she
9water 9SM-PRES-boil-APPL-FV chief
'The water is boiling for the chief'

For more Ikalanga examples see Letsholo (2001)

(2.22) a. Tsaona ya-i-tik-a
9-accident 9SM-REC PST-occur-FV
'An accident occurred'

b. Tsaona ya-i-tik-ir-a ishe
9-accident 9SM-REC PST-occur-APPL-FV 1a-chief
'The accident occurred for the chief' (Benefited the chief somehow)

The examples above "show" that the subject is in no way agentive yet a beneficiary interpretation seem to be available. This shows then that ChiShona behaves differently from Sesotho and allows the unaccusatives to co-occur with the applicative and give a beneficiary reading. These have been referred to in the literature as unaccusative mismatches. This topic will be discussed further in chapter 3.

2.3.2 Transitive and applicative arguments

Transitive verbs tend to encode 'agent-patient' relations where an agent subject acts responsibly or volitionally to affect the object of the action verb. These instances typically have a beneficiary NP added as already seen. However, as will be shown in chapter 4 depending on context, transitive verbs can add other roles.

(2.23) a. Mayi va-ka-uray-a mbudzi
1a-mother 2aSM-PST-kill-FV 9-goat
'Mother killed a goat'

b. Mayi va-ka-ndi-uray-ir-a mbudzi
1a-mother 2aSM-PST-1SG-kill-APPL-FV 9-goat
'Mother killed a goat for me'

This as already shown is an example of the standard applicative construction, the double object construction.

2.3.3 Ditransitive and applicative arguments

There seems to be a general assumption within the literature that applicatives cannot co-occur with ditransitive verbs. However, within ChiShona, the co-occurrence

of a ditransitive verb and an applicative suffix results in tritransitive verbs[15]. Ditransitive verbs subcategorise for two objects.

Ditransitive verbs within ChiShona show a variety of patterns of occurrence. The first pattern comprises those verbs in which both internal arguments are obligatorily subcategorised for by the verb. The second pattern is when either of the two arguments are optional and the third pattern comprises the verbs in which one argument is obligatory and the other is optional as illustrated below respectively:

(2.25) a. Mayi va-ka-nyim-a katsi chi-kafu
1a-mother 2aSM-PST-refuse-FV 9 cat 7-food
'Mother refused the cat food'

b. *Mayi va-ka-nyim-a katsi
1a-mother 2aSM-PST-refuse-FV 9 cat
'Mother refused the cat '

c. *Mayi va-ka-nyim-a chi-kafu
1a-mother 2aSM-PST-refuse-FV 7-food
'Mother refused food'

d. Mayi va-ka-nyim-ir-a baba katsi chi-kafu
1a-mother 2aSM-PST-refuse-APPL-FV 1a father 9 cat 7-food
'Mother refused the cat food for father'

e. *Mayi va-ka-nyim-ir-a katsi chi-kafu
1a-mother 2aSM-PST-refuse-APPL-FV 9 cat 7-food
'Mother refused the cat food'

These sentences illustrate that verbs cannot be used with one internal argument missing. More importantly, the verb can co-occur with an applicative suffix with a beneficiary interpretation[16]. *Baba*, 'father', with the addition of the applicative

[15]Moshi (1998) shows that Kichaga appears to be a unique language in that in non-applicative verbs like *give to, send for* and *send with* have the ability to allow up to three postverbal lexical object NPs and up to four in applicative constructions. She goes on to conclude that a total of five postverbal applicative objects can also be found in constructions which include an applicative locative NP as one of the arguments as exemplified below:

(2.24) a. Mangi n-a-la-we-i-a mana nyama
chief FOC-1SU-PST-slice-APPL-FV child meat
'The chief sliced the meat for the child'

b. Mangi n-a-la-we-i-a mka mana nyama kashu kilrinyi
chief FOC-1SU-PST-slice-APPL-FV wife child meat knife room-in
'The chief sliced for the child for the wife the meat with a knife in the room'

[16]Languages like Sesotho Machobane (1989) and Kiswahili Marten (1999) seem to prohibit the co-occurrence of the applicative and a simple ditransitive verb.ChiShona behaves like Sizulu (Benji Wald personal communication) as well as Kinyarwanda Kimenyi (1980, 1995), KichagaMoshi (1998).

suffix to the verb is obligatorily added on to the ditransitive, for this sentence without this applied object will be rendered ungrammatical as can be seen in example (2.25e).

There are examples of ditransitive verbs in which either argument is optional. Verbs that belong to this class are *dzidzisa* 'teach' and *bvunza* 'ask'

(2.26) a. Mayi va-no-dzidzis-a va-na Chi-Shona
1a mother 2aSM-PRES-teach-FV 2-children 7-language
'Mother teaches children ChiShona'

b. Mayi va-no-dzidzis-a va-na
1a mother 2aSM- PRES-teach-FV 2-children
'Mother teaches children'

c. Mayi va-no-dzidzis-a Chi-Shona
1a mother 2aSM-PRES-teach-FV 7-language
Mother teaches ChiShona'

d. Mayi va-no-dzidzis-ir-a mu-fundisi va-na Chi-Shona
1a mother 2aSM-PRES-teach-APPL-FV 1-teacher 2-child 7-language
'Mother teaches children ChiShona for the teacher'

In contrast to the data in (2.25), examples (2.26b, c) illustrates that either argument may be optionally left out provided that the other is expressed. Moreover, this type of ditransitive can also co-occur with the applicative. It has to be pointed out that within this construction *vana*, 'children', and *ChiShona* can be left out or each one can occur with *mufundisi*, 'teacher', and the sentence will still be acceptable as exemplified in (2.27). This has been referred to in the literature as instances of *unspecified object deletion.*

(2.27) a. Mayi va-no-dzidzis-ir-a mu-fundisi
1a mother 2aSM-PRES-teach-APPL-FV 1-teacher
'Mother teaches for the teacher'

b. Mayi va-no-dzidzis-ir-a mu-fundisi Chi-shona
1a-mother 2aSM-PRES-teachAPPL-FV 1-teacher 7-language
'Mother teaches ChiShona for the teacher'

c. Mayi va-no-dzidzis-ir-a mu-fundisi v-ana
1a-mother 2aSM-PRES-teach-APPL-FV 1-teacher 2-child
'Mother teaches children for the teacher'

Finally, we have instances in which one argument is obligatory and the other can be optionally left out. The verbs that belong to this class are *kumbira* 'ask for',

yamwisa 'feed', *zora*'smear', *rakidza*'show'. Their usage is illustrated in examples (2.28) below:

(2.28) a. Beatrice na-Stella va-ka-kumbir-a va-enzi mari
1a-nameCON-1a-name 2SM-PST-ask for-FV 2-guests 9-money
'Beatrice and Stella asked for money from guests'

b. *Beatrice na-Stella va-ka-kumbir-a va-enzi
1a-nameCON-1a-name 2SM-PST-ask for-FV 2-guest
'Beatrice and Stella asked from guests'

c. Beatrice naStella va-ka-kumbir-a mari
1a-nameCON-1a-name 2SM-PST-ask for-FV 9-money
Beatrice and Stella asked for money'

d. Beatrice na-Stella va-ka-kumbir-ir-a Ramos va-enzi mari
1a-nameCON-1a-name 2SM-PST-ask for-APPL-FV 1a-name 2-guest 9 money
'Beatrice and Stella asked for money from guests for Ramos'

e. Beatrice na-Stella va-ka-kumbir-ir-a Ramos mari
1a-nameCON-1a-name 2SM- PST-ask for-APPL-FV 1a-name 9-money
'Beatrice and Stella asked for money for Ramos'

f. *Beatrice na-Stella va-ka-kumbir-ir-a Ramos va-enzi
1a-nameCON-1a-name 2SM-PST-ask for-APPL-FV 1a-name 2-guest
'Beatrice and Stella asked from guests for Ramos'

The data above illustrate that one of the internal arguments can be left out without affecting the meaning of the verb. Moreover, we can see that the example can also be applicativised.

As can be seen from the section on ditransitive verbs, depending on the nature of the verb, it is possible to leave out one of the objects. This is generally termed *object deletion* or *unspecified object deletion.* This is a case in which an argument is omitted from the clause, with no incorporated object pronoun on the verb (Demuth, Machobane & Moloi (2000)). This is part of a more general discourse phenomenon, where a lexical object of a verb is occasionally omitted in discourse.

Verbs which undergo unspecified object deletion determine affected or created objects in virtue of their meaning alone (that is only certain things can be read, cooked, knitted). The result of object deletion is intransitive or transitive depending on the nature of the verb, though it remains semantically transitive; it is reasonable to suppose that the underlying argument structure of the verb is bound to a lexically designated constant (e.g.food for eat) (Humphreys (1999)).

As hypothesised by Machobane (1989), through her INTERNAL ARGUMENT PRINCIPLE rule, there is a limit to the number of internal arguments that derived verbs can take within Sesotho. In her arguments, Sesotho allows only two internal arguments and nothing else as shown by its prohibition of tritransitive applicatives and she claims that this restriction is anchored in universal restrictions. The data provided above shows that the Internal Argument Principle is not operational in ChiShona since ditransitive verbs can be applicativised. This then shows that the principle is not a universal one but a language particular one.

To summarise from the above, the data demonstrates that the applicative in ChiShona can be derived from most intransitive, transitive and ditransitive verbs, adding an extra argument which is prototypically interpreted as beneficiary. This shows the productive nature of the suffix.

Given that an applicative suffix introduces an additional argument, many Bantuists have striven to determine the syntactic characteristic of this new object. The attention accorded to the post-verbal noun phrases in the ditransitive applicative construction has revolved around the status of the beneficiary with respect to objecthood. I turn now to a discussion of the syntactic properties of the applicative arguments, focusing specifically on their object properties.

Bresnan & Moshi (1990) show that Bantu languages exhibit 'object asymmetries', with respect to double object applicative constructions; some Bantu languages like Kinyarwanda, Kichaga show symmetrical object properties, in which both objects show true 'object' properties, whereas other languages like Chichewa, Kiswahili show 'asymmetrical' object properties, with only one object, usually the applied object, showing the true object properties.[17]

2.4 Object properties of applicative arguments

The aim of this section is to describe the syntactic properties associated with the applied objects[18], ascertaining the status of the two noun phrases that follow the verb with respect to objecthood. Does the applied object and the logical object behave syntactically the same or differently? I first give the syntactic characteristics

[17](Demuth, Machobane & Moloi 2000), (Bresnan & Moshi 1990), (Alsina & Mchombo 1992), (Alsina & Mchombo 1993) and (Baker 1988*b*) for such accounts.

[18]Except for Hawkinson & Hyman (1974) and some traditional grammarians like Doke and Fortune (in a vague manner though), for ChiShona applicatives there have not been any other researchers who has done it.

of a transitive direct object and then apply these properties on both applied object and logical objects.

Characteristics of a direct object

According to Trask (1993) a direct object is a noun phrase that occurs inside a verb phrase and which is the second obligatory argument of a transitive verb, most typically expressing a patient that undergoes the action of the verb. Direct objects are typically distinguished from indirect and oblique objects, which also occur inside the verb phrase, by such criteria as being obligatorily subcategorised for by the verb, being unmarked, having the ability to become a subject of a corresponding passive and the ability to be replaced by an object marker in languages with this operation like ChiShona. Within Bantu literature the direct object of the verb is most often identified on the basis of three properties:

1. it is the NP that (in neutral contexts at least) immediately follows the verb; this test looks at the grammatical position of the object NP and without any morphological cues, a direct object should appear immediately after the verb.
2. it is the NP that controls the OBJECT MARKER (OM) that may appear on the verb; and
3. it is the NP that can become a subject through the process of passivisation[19].

2.4.1 Word order

Word order in ChiShona is unconstrained. ChiShona is a head-initial language and it generally falls under the umbrella of SUBJECT VERB OBJECT (SVO) language. The canonical position of obligatory objects is the post-verbal position, immediately after the verb. However, objects can also appear in left dislocated position or right dislocated positions. Note, though that the movement of an object to a left or right dislocated position triggers the appearance of an object pronoun as will be further discussed in subsection (2.4.2). ChiShona allows flexible word order of complements because complements are morphologically marked; either obligatorily or optionally. This is demonstrated below by an NP whose function is a subject.

[19]See and Compare (Guthrie 1962); (Kisseberth & Abasheikh 1977); (Duranti & Byarushengo 1977); (Gary & Keenan 1977); (Dryer 1983); (Hyman & Duranti 1982); (Bresnan & Moshi 1990) and (Ngonyani 1998)

(2.29) a. Ma-purisa a-ka-sung-a va-dzidzi
6-police 6SM-PST-arrest-FV 2-student
'The police arrested the students'

b. A-ka-sung-a va-dzidzi ma-purisa
6SM-PST-arrest-FV 2-student 6-police
'They arrested the students, the police'
'The police arrested the students'

In ChiShona, grammatical subjects can appear in pre-verbal or post-verbal position giving an SVO or VOS order. The canonical position of a subject however, is before the verb.

The canonical position of an obligatory object is the post-verbal position, right after the verb. As argued by Kroeger (1993) for Tagalog, the NP immediately following the verb is syntactically an object, forming a VP with the verb. Semantically, in verbs that encode strict transitive actions, like hit, drink, break, that is a noun phrase that is directly affected by the action defined by the verb. From a discourse perspective, the object that appears closest to the verb carries the information which the speaker intends the hearer to consider most prominent (Moshi 1998) . An object that is structurally located after a transitive verb without any preposition is recognised as a direct object as exemplified below:

(2.30) Ma-purisa a-ka-sung-a va-dzidzi
6-police 6SM-PST-arrest-FV 2-student
'The police arrested the students'

Vadzidzi 'students' is structurally located in a direct object position. The direct object of a verb is the second argument that is lexically encoded by the valency of the verb (subcategorised for). Our definition of direct object for Chishona is syntactic in nature, a noun phrase that is unmarked and occupies the position immediately after a verb.

Within double object constructions, the question to be answered is which object has the capacity to appear immediately after the verb.

2.4.2 Object marking

Within the literature there is a general assumption that there are restrictions with respect to object marking. This restriction has to do with the fact that within

a double object construction there is only one object that can be replaced by a referential pronoun. Object markers are referential in nature. Bantu verbs have two forms of referential morphology on its verb, one that is obligatory and one that is optional. It is true that the subject is marked obligatorily by a SUBJECT MARKER (SM), to indicate that a clause has at least one topic. Nevertheless, a clause can indicate a second optional topic by using an object marker (OM). In order to understand how object marking works, a brief description and analysis is presented.

Objects can be distributed along the following four patterns: (i) overtly expressed as a lexical NP; (ii) a referential pronoun with an overtly expressed NP (Ngonyani (1996) refers to this as *clitic doubling* whilst Bentley (1994:2) uses the term cross-reference); (iii) a referential pronoun on its own-pronominalisation; (iv) no overt lexical NP and no referential pronoun (Ngonyani (1996:28)). The types are illustrated in (2.31):

(2.31) a. Kundishora a-ka-nyor-a tsamba
1a-name 1SM-PST-write-FV 9-letter
'Kundishora wrote a letter'

b. Kundishora a-ka-*yi*-nyor-a *tsamba*
1a-name 1SM-PST-9OM$_{agr}$-write-FV 9-letter
'Kundishora wrote it, the letter'

c. Kundishora a-ka-*yi*-nyor-a Ø
1a-name 1SM-PST-9OM-write-FV
'Kundishora wrote it'

d. Hongu, a-ka-nyor-a Ø
yes 1SM-PST-write-FV
Yes, s/he wrote'

The object in (2.31a) is overtly expressed while in (2.31b) there is a marked object and an overtly expressed noun. In example (2.31c) object marking is illustrated while in (2.31d) there is neither object marking nor the object NP [20]. According to Ngonyani (1996), example (2.31d) is an elliptical sentence; there is neither object marking nor an overt object NP . Such an example will be in response to the following question:*Kundishora akanyora tsamba here?* 'Did Kundishora write a letter?'

[20]As summarised in (2.32) the lexical NP is indicated as NP and the object marker as OM. The verb stem is shown as VS and Ø stands for no object marker or overt NP

The four paradigms are summarised in (2.32)

(2.32) a. Ø- VS NP
b. OM_i-VS NP_i
c. OM-VS Ø
d. Ø-VS Ø

Objects of preposition cannot be marked on the verb as illustrated below:

(2.33) a. Beatrice a-ka-taur-a na-Ramos
1a-name 1SM-PST-talk-FV ASS-1a-name
'Beatrice spoke with Ramos'
b. *Beatrice a-ka-mu-taur-a na-Ramos
1a-name 1SM-PST-1OM-talk-FV ASS-1a-name
'Beatrice spoke with Ramos'

The object of preposition with cannot be object marked on the verb as shown in (2.33b). Also, intransitive verbs cannot appear with an OM since they do not have an object as exemplified by the unacceptability of such an attempt to object mark an intransitive shown in example (2.34):

(2.34) *Ma-ruva a-ka-ma-svav-a
6-flower 6SM-PST-6OM-wilt-FV
'Flowers they wilted.'

Thus as a diagnostic for objecthood, we may assume that a phrase that can be replaced by an object marker is a direct object.

(2.35) a. Ma-purisa a-ka-sung-a va-dzidzi
6-police 6SM-PST-arrest-FV 2-student
'The police arrested the students'
b. Ma-purisa a-ka-va-sung-a
6-police 6SM-PST-2OM-arrest-FV
'The police arrested them'

Example (2.35) shows that *vadzidzi* 'students' has direct object properties, since it can be replaced by an object marker.

Given the examples in (2.31) it can be seen that the referential pronoun has different functions. What is the pragmatic/semantic function of the object marker? Bresnan

& Mchombo (1987) have concluded that the object marker for Chichewa is used unambiguously for anaphoric agreement. In other words, it is an incorporated object pronoun. However, (Bentley 1994) concluded that the function of object markers is often described as either pronominal or grammatical or both. In the literature the following functions are what have been emphasised:

1. Pronominalisation
2. Object agreement (cross reference)
3. Specificity and definiteness
4. Animacy
5. Left dislocation

These functions are exemplified as (2.36) below:

(2.36) a. Ramos a-ka-vak-a danga
1a-name 1SM-PST-build-FV 5-shed
'Ramos built a shed'

b. Ramos a-ka-ri-vak-a
1a-name 1SM-PST-5OM-build-FV
'Ramos built it '

c. Ramos a-ka-ri-vak-a danga
1a-name 1SM-PST-5OM-build-FV 5-shed
'Ramos built it, the shed '

d. Danga, a-ka-ri-vak-a Ramos
5-shed 1SM-PST-5OM-build-FV 1a-name
'The shed, Ramos built it'

Pronominalisation

Example (2.36b) illustrates the widely assumed function of the OM affix, that is pronominalisation . When a noun is replaced by a pronoun, the latter surfaces as an OM, immediately preceding the verb stem. If an object can do this, then it is a direct object. Thus *danga*, 'shed' is a direct object.

A digression is in place here, concerning the interaction of full pronouns with object marking. When an independent pronoun functions as a direct object or indirect object then there is no compelling reasons as to why we cannot object mark it. It is true that full pronouns interact with object markers in a similar manner as lexical NPs. This is exemplified in (2.37):

(2.37) a. Vimbai a-ka-tum-a i-ni ku-ma-girosa
1a-name 1SM-PST-sent-FV 1SG 17-6-shop
'Vimbai send me to the shops'

b. Vimbai a-ka-*ndi*-tum-a *ini* ku-magirosa
1a-name 1SM-PST-1OM$_{agr}$-write-FV 1SG 17-6-shop
'Vimbai send me, me to the shops'

c. Vimbai a-ka-*ndi*-tum-a Ø ku-magirosa
1a-name 1SM-PST-OM-send-FV 17-6-shop
'Vimbai send me to the shops'

The personal pronoun can be replaced by the object marker. This is because in this case the full pronoun is behaving like a direct object. In other Bantu languages, for example Kiswahili, example (2.37a) is unacceptable, it has to be cross-referenced for it to be grammatical[21]. In other words, the object marker is obligatory in the presence of personal pronouns (Bentley (1994)). However, ChiShona does not have this constraint. More will be said on this subject in the next section.

Object agreement

Some Bantu languages allow the co-occurrence of the object NP with the OM as shown in example (2.36c). In the context of ChiShona this can be said to be anaphoric in nature, but as will be shown below, in languages like Kiswahili and Chichewa in some cases it is a case of object agreement. According to Bentley (1994) object agreement (cross reference) depends on several factors; sensitivity to animacy, locality, specific reference and double object construction. Subject markers obligatorily co-occur with an associated NP and such a relationship between the two elements may either be anaphoric or grammatical. Similarly, object NPs as illustrated in sentence (2.36c) can cooccur with an associated object marker but this link for Chichewa has been concluded to be anaphoric only (Bresnan & Mchombo 1987) since it is optional. Bresnan & Mchombo (1987) support their conclusion of anaphoric function using TOPic and FOCus tests as well as evidence from syntactic and phonological phenomena as discussed below.

Bresnan and Mchombo extended their notion of locality to object NPs and their associated object markers. Two tests are used to determine clause boundaries for VPs in Chichewa: (i) tonal retraction and (ii) post-verbal word order. For the first test see (Bresnan & Mchombo 1987) and (Bentley 1994). Bentley (1994:119) points

[21]This is an impression one gets after taking Bentley's analysis into consideration. There is need for further research.

out that word order determines a VP boundary if a verb and its internal argument are constituents of a single phrase and the internal argument is a full object NP and appears immediately to the right of the verb. Any other word order is unacceptable and does not constitute a VP as shown in the following set of possible word orders in Chichewa:

(2.38) a. Njuchi zi-na-lum-a alenje
bees SM-PST-bite-FV hunters
'The bees bit the hunters'

SVO

b. Zi-na-lum-a alenje njuchi
SM-PST-bite-FV hunters bees
'Bit the hunters, the bees'

VOS

c. *Alenje zi-na-lum-a njuchi
hunters SM- PST-bite-FV bees
'The bees bit the hunters'

OVS

d. *Zi-na-lum-a njuchi alenje
SM-PST-bite-FV bees hunters
'The bees bit the hunters'

VSO

e. *Njuchi alenje zi-na-lum-a
bees hunters SM-PST-bite-FV
'The bees bit the hunters'

SOV

f. *Alenje njuchi zi-na-lum-a
hunters bees SM-PST-bite-FV
'The bees bit the hunters'

OSV

(Bresnan & Mchombo 1987)

If an object marker is included then the constraints associated with VP boundaries are relaxed because the full object NP is no longer a constituent of the verb phrase and all the above orders are possible as shown in examples (2.39)

(2.39) a. Njuchi zi-na-wa-lum-a alenje
bees SM-PST-OM-bite-FV hunters
'The bees bit the hunters'

SVO

b. Zi-na-wa-lum-a alenje njuchi
SM-PST-OM-bite-FV hunters bees
'Bit the hunters, the bees'

VOS

c. Alenje zi-na-wa-lum-a njuchi
hunters SM-PST-OM-bite-FV bees
'The bees bit the hunters'

OVS

d. Zi-na-wa-lum-a njuchi alenje
SM-PST-OM-bite-FV hunters bees
'The bees bit the hunters'

VSO

e. Njuchi alenje zi-na-wa-lum-a
bees hunters SM-PST-OM-bite-FV
'The bees bit the hunters'

SOV

f. Alenje njuchi zi-na-wa-lum-a
hunters bees SM-PST-OM-bite-FV
'The bees bit the hunters'

OSV

(Bresnan & Mchombo 1987)

In the above cases, Bresnan & Mchombo (1987) conclude that the object has a different grammatical function. It is no longer an object but functions as a TOPIC and hence is said to be in a non-local relation with the verb, since we see that it is no longer restricted to appear immediately after the verb. On the basis of tonal retraction and word order, Bresnan and Mchombo, conclude that the OM in Chichewa is an incorporated pronoun or argument, hence full object NPs bear the TOPIC function when cooccurring with an OM (Bentley 1994). So OM appears to replace the object in these instances.

This anaphoric link is clearly supported by question forms. Foley (1999) notes that question words, being the focus of the sentence, can never be cross referenced by an object prefix, nor can the focused nominals in an answer as shown by the following Chichewa examples (see Foley (1999 pg 208 for these examples):

(2.40) a. [(Kodi) [mu-ku-funa chiyani]]
Q SUBJ-TNS-want FOCUS/OBJ what
'What do you want?'

b. ??[(Kodi) [mu-ku-chi-funa chiyani]]
Q SUBJ-TNS-OM-want FOC/TOP what

Because in example (2.40b), the OM *chi* bears pronominal status, it forces the interrogative constituent *chiyani* to simultaneously bear both FOC and TOP functions, which leads to the unacceptability of the sentence.

In order to determine the grammatical function in ChiShona I will use two syntactic tests described by Bresnan and Mchombo to determine VP boundaries. The first set of examples tests possible VP word orders. Then the second one tests the possible cooccurrence of an OM with an associated interrogative constituent.

(2.41) a. Vimbai a-ka-takur-a mw-ana/huni
1a-name 1SM-PST-carry-FV 1-child/10-firewood
'Vimbai carried the child/firewood'

SVO

b. A-ka-takur-a mw-ana/huni Vimbai
1SM-PST-carry-FV 1-child/10-firewood 1a-name
'Carried the child/firewood, Vimbai'

VOS

c. ??Mw-ana/huni a-ka-takur-a Vimbai
1-child/10-firewood 1SM-PST-carry-FV 1a-name
'Vimbai carried the child'

OVS

d. ??A-ka-takur-a Vimbai mw-ana/huni
1SM-PST-carry-FV 1a-name 1-child/10-firewood
'Carried Vimbai the child/firewood'

VSO

e. ??Vimbai mw-ana/huni a-ka-takur-a
1a-name 1-child/10-firewood 1SM-PST-carry-FV
'Vimbai the child/firewood carried'

SOV

f. ??Mwana/huni Vimbai a-ka-taku-ra
1-child/10-firewood 1a-name 1SM-PST-carry-FV
'Vimbai carried the child/firewood'

OSV

Examples in (2.41) indicate that the orders that are permitted in ChiShona are SVO and VOS. The others are marginal as shown by the use of double question marks. However, all these orders are acceptable when the object marker is included as exemplified in the following instances (2.42):

(2.42) a. Vimbai a-ka-mu/dzi-takur-a mw-ana/ huni
1a-name 1SM-PST-1OM/10OM-carry-FV 1-child/10-firewood
'Vimbai carried him/her/ them the child/firewood'

SVO

b. A-ka-mu/dzi-takur-a mwana/huni Vimbai
1SM-PST-1OM/10OM-carry-FV 1-child/10-firewood 1a-name
Vimbai carried him/her/*them* the child/firewood'

VOS

c. Mw-ana/huni a-ka-mu/dzi-takur-a Vimbai
1-child/10-firewood SM-PST-1OM/10OM-carry-FV 1a-name
'The child/firewood Vimbai carried him/her/*them*'

OVS

d. A-ka-mu/*dzi*-takur-a Vimbai mwana/huni
1SM-PST 1OM/10OM-carry-FV 1a-name 1-child/10-firewood
'Vimbai carried him/her/*them* the child/firewood'

VSO

e. Vimbai mw-ana/huni a-ka-mu/dzi-takur-a
1a-name 1-child/10-firewood 1SM-PST1OM/10 OM -carry-FV
Vimbai carried him/her/*them* the child/firewood'

SOV

f. Mw-ana/*huni* Vimbai a-ka-mu/dzi-takur-a
1-child/10-firewood 1a-name 1SM-PST-1OM/10 OM-carry-FV
'The child/Firewood Vimbai carried it/her/him/them"

OSV

All orders are permitted for animate and inanimate NPs. When one considers the simple object interrogative question, the outcome is as follows:

(2.43) a. Ko va-rume va-ka-*mu-/Øp-a chi-bage ani mu-mu-nda?
Q 2-man 2SM-PST-1OM-give-FV 7-corn who 18-3-field
'To whom did the men give corn to in the field?'

b. Kundishora a-ka-*mu-/Øon-a ani?
1a-name 1SM-PST-1OM-see-FV who
'Whom did Kundishora see?'

(2.44) a. Anotida a-ka-*yi/Ø-rov-a mw-ana neyi?
1a-name 1SM-PST-9OM-beat-FV 1-child what
'What did Anotida use to beat the child with?'

b. Anotida a-ka-*chi-/Øon-a chiyi?
1a-name 1SM-PST-1OM-see-FV what
'What did Anotida see (it) ?'

The above highlights the fact that the OM be it animate or inanimate consistently functions like an anaphor.This is in contrast to Kiswahili, which is sensitive to animacy since object NPs with an animate referent are regularly cross-referenced (Bentley (1994)). As shown by Bentley (1994) (pg 140-141) in Swahili if an associated OM cooccurs with an animate lexical object NP, then all word orders except VSO become grammatical. In contrast, inanimate orders are acceptable. As exemplified by Bentley (1994) the word order for inanimates without a co-occurring OM are all grammatical whilst word orders with animate objects without an associated OM are restricted as shown in examples (2.45). If the lexical object NP is animate, then the three orders, SVO,VOS and VSO are acceptable.

(2.45) a. Mwalimu a-na-piga watoto
teacher SM-TNS-hit children
'(A) teacher is hitting children'

SVO

b. A-na-piga watoto mwalimu
SM-TNS-hit children teacher
'(A) teacher is hitting children'

VOS

c. ??Watoto, a-na-piga mwalimu
children SM-TNS-hit teacher
'(A) teacher is hitting children'

OVS

d. A-na-piga mwalimu watoto
SM-TNS-hit teacher children
'(A) teacher is hitting children'

VSO

e. *Mwalimu watoto a-na-piga
teacher children SM-TNS-hit
'(A) teacher is hitting children'

SOV

f. *Watoto, mwalimu a-na-piga
children teacher SM-TNS-hit
'(A) teacher is hitting children'

OSV

Bentley (pg.140)(1994)

These examples show that at least with some word orders the OM is not necessary.

One is referred to Bentley to see that the word order of inanimates is acceptable in all these illustrated forms. In the case of animate lexical object NP, if an associated OM cooccurs with them, then all word orders except VSO become acceptable as exemplified in examples (2.46). On the contrary, all orders for inanimates are acceptable.

(2.46) a. Mwalimu a-na-wa-piga watoto
teacher SM-TNS-OM-hit children
'(A) teacher is hitting children'

SVO

b. A-na-wa-piga watoto mwalimu
SM-TNS-OM-hit children teacher
'(A) teacher is hitting children'

VOS

c. Watoto a-na-wa-piga mwalimu
children SM-TNS-OM-hit teacher
'(A) teacher is hitting children'

OVS

d. *A-na-wa-piga mwalimu watoto
SM-TNS-OM-hit teacher children
'(A) teacher is hitting children'

VSO

e. Mwalimu watoto a-na-wa-piga
teacher children SM-TNS-OM-hit
'(A) teacher is hitting children'

SOV

f. Watoto, mwalimu a-na-wa-piga
children teacher SM-TNS-OM-hit
'(A) teacher is hitting children'

OSV

(Bentley 1994)

To reinforce the fact that the OM which co-occurs with the animate lexical object is both pronominal and grammatical is exemplified by interrogatives and we see that when a question which interrogates an animate object is not marked on the verb then it is ungrammatical and this is the complete opposite of inanimates. When an inanimate object is questioned it cannot co-occur with an OM.

(2.47) a. A-li-m/*Ø-pelek-e-a nani kitabu?
3SM-TNS-OM-send-APP-FV who book
'To whom did he send the book?'

b. Mwalimu a-na-m/*Ø-piga nani?
teacher 3SM-TNS-OM-hit who
'Who is the teacher hitting?'

(2.48) a. *A-li-ki-funika nini mesa?
3SM-TNS-OM-cover what table
'What did he cover the table with?'

b. *U-na-ki-nunua nini ?
2SM-TNS-OM-buy what
'What are you buying (it)?'

(Bentley 1994)

It resists local as well as non-local co-occurrence with the interrogative *nini* 'what'. This resistance to co-occurrence appears to be a result of inanimate reference and possible incongruity of function (Bentley 1994).A language's sensitivity to animacy is reflected in its co-occurrence of OM and object NPs as illustrated by Kiswahili.

Moreover, we find that with respect to object cross-reference, Kiswahili obligatorily cross-references personal object pronouns as demonstrated below:

(2.49) a. Ni-na-m-penda yeye
1SG-TNS-OM-like 3SG
'I like him/her'

b. *Ni-na–penda yeye
1SG-TNS-like 3SG
'I like him/her'

Bentley (1994:29)

In ChiShona on the other hand, the object marker is not obligatory in the presence of a personal pronoun as in example (2.50):

(2.50) Nda-ka-(mu)-tum-a iye
1SG-PST-OM-sent-FV 3SG
'I send him/her'

This difference further highlights that Kiswahili object markers are governed by animacy while ChiShona object markers are not. In addition Bentley shows that Kiswahili does not have inanimate independent pronouns which correspond to its personal pronoun forms. ChiShona has inanimate pronouns and the co-occurrence of an inanimate pronoun and an object marker results in specificity.

To summarise from the above, the OM in ChiShona is pronominal. This is in contrast to Kiswahili. In the latter case, cross-referencing of NPs with animate referents regularly occurs locally and non-locally and suggests that the function of the animate object marker in Kiswahili is both grammatical and pronominal. Kiswahili in other words, is an object agreement marking language. On the other hand, an object NP with an inanimate referent is rarely cross-referenced and, therefore, is close to being a pure pronominal (Bentley 1994). In ChiShona, local cross-referencing is ungrammatical. The co-occurrence of an object NP, whether lexical, pronominal or interrogative, with the OM is always anaphoric and non-local.

Definiteness and specificity

Object markers are often associated with definiteness and specificity, a well known feature in many languages[22]. As will be highlighted below, in Kiswahili, definite objects trigger obligatory object agreement as is shown in the examples in (2.51) below:

(2.51) a. si-ku-ki-on-a ki-tabu h-iki
NEG1SM-PST-7OM-see-FV 7-book this 7
'I didn't see this book.'

b. *si-ku-Ø-on-a ki-tabu h-iki
NEG1SM-PST-see-FV 7-book this 7

c. si-ku-ki-on-a ki-tabu
NEG1SM-PST-7OM-see-FV 7-book
'I did not see the book.'
*I did not see a book.'

[22]Givon (1975) on Bantu languages; Sportiche (1993) on French and Dutch; Mahajan (1991) on Hindi; (Morolong & Hyman 1977) on Sesotho and (Ngonyani 1996) on Kiswahili and Kindendeule

d. si-ku-Ø-on-a ki-tabu
NEG1SM-PST-see-FV 7-book
'I did not see a book'
*I did not see the book.'
(Ngonyani 1996)

The fact that the object is a specific/definite NP is reflected by the fact that the NP is demonstrative. In the case of Kiswahili, only when the object is marked on the verb in (2.51a) is the sentence acceptable because the definite object requires marking. Sentence (2.51b) has no marking and therefore it is ungrammatical. Sentence (2.51c) has a definite reading since there is marking on the verb whilst sentence (2.51d) has an indefinite reading because there is no marking on the verb.

Cognates of the above data in ChiShona are grammatical and interpretation associated with the construction can be said to be particular and definite (2.52).

(2.52) a. Ha-ndi-na-ku-ri-on-a bhuku i-ri
NEG-1SG-NEG-PST-5OM-see-FV 5-book DEM
'I didn't see, it, this book.'

b. Ha-ndi-na-ku-Ø-on-a bhuku i-ri
NEG-1SG-NEG-PST-see-FV 5-book DEM
'I did not see this book'

c. Ha-ndi-na-ku-ri-on-a bhuku
NEG-1SG-NEG-PST-5OM-see-FV 5-book
'I did not see, it, the book.'
*I did not see it, a book.'

d. Ha-ndi-na-ku-on-a bhuku
NEG-1SG-NEG-PST-see-FV 5-book
'I did not see a book.'
*I did not see the book.'

In (2.52a) definiteness is given further by 'it', for it specifies that it is this particular book that I did not see whilst in the (2.52b) example there is not that notion of particularity. The same can be said for (2.52c) where the verb is object marked and the object is clearly definite, in contrast to the object (2.52d) where there is no marking. The same is true for positive constructions as shown in (2.53) g

(2.53) a. Nda-ka-ri-on-a bhuku i-ri
1SG-PST-5OM-see-FV 5-book DEM
'I did see, it, this book.'

b. Nda-ka-Ø-on-a bhuku i-ri
1SG-PST-see-FV 5-book DEM
'I did see this book'

c. Nda-ka-ri-on-a bhuku
1SG-PST-5OM-see-FV 5-book
'I did see,it, the book.'
*I did see it, a book.'

d. Nda-ka-on-a bhuku
1SG-PST-see-FV 5-book
'I did see a book.'
*I did see the book.'

Topicalisation

Another function of the OM is associated with topicalisation or left dislocation (Morolong & Hyman 1977). When a lexical object within a construction is shifted to the front, it generally has to have an OM for it to be grammatical. There is an anaphoric relation between the object moved and the OM.

(2.54) a. Kundishora a-ka-nyor-a tsamba
1a-name 1SM-PST-write-FV 9-letter
'Kundishora wrote a letter'

b. Tsamba, a-ka-yi-nyor-a Kundishora
9-letter 1SM-PST-9OM-write-FV 1a-name
'The letter, he wrote it, Kundishora '

The dislocated active clause in (2.54b) implies object fronting in pre-verbal position, the occurrence of an object marker in pre-verbal position and the postverbal position of the subject. This results in a difference between the two sentences in terms of definiteness. The two sentences have logico-semantic equivalence. However, they express different information structure. Although they express the same propositional content, they are not interchangeable given a particular context. For example, example (2.54a) , could be the answer to all the following questions:

(2.55) a. Kundishora a-ka-nyor-e-i?
1a-name 1SM-PST-write-FV-QUE FORM
'Did Kundishora write something?'

b. Kundishora a-ka-it-e-i?
1a-name 1SM-PST-do-FV-QUE FORM
'What did Kundishora do?'

c. Chi-yi, cha-ka-nyor-a Kundishora?
7 what 7SM PSTwriteFV 1a-name
'What did Kundishora write '

These questions are all focus, wide focus and narrow focus respectively as shown by the three questions (here focus can be identified with the part of the sentence that encodes the actual information of the sentence, in other words, what some pragmatic theories call 'new information') (Prat Sala (1997)). Sentence (2.54b) could be the answer to the question:

(2.56) Ndi-yani a-ka-i-nyor-a tsamba?
its-who 1SM-PST-9OM-writeFV 9-letter
'It is who, who wrote it, the letter?'

The choice of sentences (2.53) is not arbitrary. The appropriateness of each sentence depends on the discourse context preceding them. One can conclude further that the topicalised example results in prominence or emphasis associated with the sentence or just some part of it. In this situation, the speaker is emphasising the object, giving it more prominence and emphasis than the subject.

The other factor determining object marking has to do with animacy. Animacy in ChiShona does not have any effects unlike a language like Swahili were it seems to have an effect. Although this is true as shown by Ngonyani (1996) sometimes in Kiswahili a sentence can be acceptable with an animate object without an object marker on it. Most of it has already been said above. I will say a bit more later in section (2.6) when I focus on this notion of animacy in detail.

To summarise from the above, object marking in ChiShona unlike in Kiswahili is purely pronominal and anaphoric in nature. If an object can be replaced by a pronoun or be marked on the verb, then it has the properties of a direct object. A pronoun on the verb has also been shown to have other functions.

2.4.3 Passivisation

Passivisation is a grammatical function changing process in which the recipient of some action is typically expressed as the subject of the clause. The initiator of the action may or may not be mentioned in the clause. In ChiShona, passives are formed by suffixing *-w-* or any one of its variant forms *-iw-, -ew-, -hw* as illustrated below:

(2.57) a. Ma-purisa a-ka-mhur-a va-dzidzi
6-police 6SM-PST-beat up-FV 2-student
'The police thrashed students.'

b. Va-dzidzi va-ka-mhur-w-a ne-ma-purisa
2-student 6SM-PST-beat up-PASS-FV by-6-police
'Students were thrashed by police'

Comparing (2.57a and 2.57b) three salient features are clear. First, the object of the active (2.57a) appears in the subject position of the passive (2.57b) and shows subject properties such as agreement with the finite verb. Second, the subject of (2.57a) appears as an oblique noun phrase prefixed by *-na*, *by* phrase in (2.57b). Moreover, in passive type clauses, the agent *by* phrase which contains a noun phrase equivalent to the subject of the corresponding active clause, has the structural status of an optional adverbial. Even when the agent *by* phrase is absent, there is an implication of its presence at the level of meaning (Quirk, Greenbaum, Leech & Svartvik (1985)), that is for English. This is also true for Chishona Third, the verb has been modified with the addition of a suffix -w-.

The verb is transitive in nature. The relationship between actives and passives involve a regular change from one grammatical role, object, to another subject. Passivisation entails the rearrangement of two clause elements. Although the active passive pairs appear to be radically different on the surface, the relations of meaning between their elements remain the same, for example, (2.56a) has the same truth conditions as (2.57b).

In this discussion the definition of a passive clause to be employed is based on a prototypical definition[23]. As pointed out by Payne (1997) a prototype passive is characterised both morphosyntactically and in terms of its discourse function. Morphosyntactically, a passive is a semantically transitive (two participant) clause for which the following four properties hold:

1. The noun phrase which functioned as the subject function (Agent role) is either omitted or eliminated/demoted to an oblique role. (The subject can be expressed in a *by* phrase or it can be an implicit argument (Roeper (1987), Kural (1996)).
2. The noun phrase which had the object NP acquires all the properties of the subject.

[23]This is in line with Payne (1997), Comrie (1989), Shibatani (1985) and Givon (1984)

3. The semantics/interpretation associated with the construction remains unchanged.
4. The morphology of the verb changes.

Despite the fact that this definition seems to refer solely to transitive verbs, it has to be pointed out that passivisation in other languages may affect intransitive verbs (e.g.Japanese (Payne 1997)).

From the discourse perspective, a prototypical passive is used in the contexts where the Agent is relatively low in topicality with respect to Patient. Passivisation entails that a role that is high in topicality is the one that can be passivised.

Syntactically, passivisation is a valency decreasing phenomenon (Givon (1990) and Payne (1997)). This has also been referred to as detransitivising. What this means is as can be seen from example (2.57) repeated here as (2.58):

(2.58) a. Ma-purisa a-ka-mhur-a va-dzidzi
6-police 6SM-PST-beat up-FV 2-student
'The police thrashed students.'

b. Va-dzidzi va-ka-mhur-w-a ne-ma-purisa
2-student 6SM-PST-beat up-PASS-FV by-6-police
'Students were thrashed by police'

it can be seen that the difference between these two structures is that sentence (2.58b) has one object less than the active verb form.

Passive is one of the features that is said to be a mark of objecthood. Thus, Bantuists have always assumed that a true object is one that can be expressed as a passive subject.[24].

To summarise the discussion above, one can conclude that being a true object entails having the following syntactic properties, the ability of a noun to be pronominalised, the ability of the object to be a passive subject as well as appearing immediately after the verb.

[24]Thus in the terminology of LEXICAL MAPPING THEORY (LMT) only arguments that have the underlying property [-r], meaning not restricted, have this ability to be promoted to a subject position (Bresnan & Moshi (1990)).

2.4.4 Syntactic properties of Simplex ditransitive objects

I will in this section apply the three syntactic tests to simplex ditransitive verbs to see whether the two objects have the same syntactic properties. I will consider instances were the two objects are obligatorily subcategorised for first, e.g., *-pa*, 'give', *tambidza*, 'hand', *nyima*, 'refuse'

(2.59) a. Va-Mugabe va-ka-pa-a ma-*war veterans* mari
2a-1a name 2aSM-PST-give-FV 6-war veterans 9 money
'Mr Mugabe handed the war veterans money'

b. Va-Mugabe va-ka-p-a mari ma-*war veterans*
2a-1a-name 2aSM-PST-give-FV 9-money 6-war veterans
'Mr Mugabe gave money (to) war veterans'

c. *Va-Mugabe va-ka-p-a ma-*war veterans*
2a-1a-name 2aSM-PST-give-FV 6-war veterans
'Mr Mugabe gave war veterans'

d. *Va-Mugabe va-ka-p-a mari
2a-1a-name 2aSM-PST-give-FV 9-money
'Mr Mugabe gave money'

From the above examples, it can be seen that either of the two objects can appear immediately after the verb with the same meaning and neither of the two arguments can be left out.

(2.60) a. Va-Mugabe va-ka-ma-p-a mari
2a-1a-name 2aSM-PST-6OM-hand-FV 9-money
'Mr Mugabe gave them money'

b. Va-Mugabe va-ka-i-p-a ma-*war veterans*
2a-1a-name 2aSM-PST-9OM-hand-FV 6-war veterans
'Mr Mugabe gave it to the war veterans'

Furthermore, as shown in (2.60) either of the two objects can be replaced by an object marker. This shows that the two are syntactically both direct objects.

Moreover, both objects may be passivised

(2.61) a. Mari ya-ka-tambidz-w-a ma-*war veterans* na-Va-Mugabe
9 money 9SM-PST-hand-PASS-FV 6-war veterans by-2a-1a name
'Money was handed to the war veterans by Mr Mugabe'

b. Ma-*war veterans* a-ka-tambidz-w-a mari na-Va-Mugabe
6-war veterans 6SM-PST-hand-PASS-FV 9 money by 2a 1a name
'War veterans were handed money by Mr Mugabe'

Thus, given the three criteria (linear order, pronominalisation and passivisation) we must conclude that both 'war veterans' and 'money' are syntactically direct objects when following the verb 'hand'.

In the ditransitive type in which one of the objects can be left out without any effect, an example of unspecified object deletion, we also find that both are direct objects:

(2.62) a. Va-na va-ka-bvunz-a mu-dzidzizi mi-bvunzo
2-child 2SM-PST-ask-FV 1-teacher 4-question
'The children asked the teacher questions'

b. Va-na va-ka-bvunz-a mi-bvunzo mu-dzidzizi
2-child 2SM-PST-ask-FV 4-question 1-teacher
'The children asked questions (to) the teacher'

As can be seen, either object can occupy the structural position of a direct object, that is immediately after the verb.

(2.63) a. Va-na va-ka-mu-bvunz-a mi-bvunzo
2-child 2SM-PST-1OM-ask-FV 4-question
'The children asked him/her questions'

b. Va-na va-ka-mi-bvunz-a mu-dzidzizi
2-child 2SM-PST-4OM-ask-FV 1-teacher
'The children asked them (to) the teacher'

Both can be replaced by an object marker (2.63) and they can both be passive subjects (2.64):

(2.64) a. Mu-dzidzizi a-ka-bvunz-w-a mi-bvunzo ne-va-na
1-teacher 1SM-PST-ask-PASS-FV 4-question by-2-child
'The teacher was asked questions by the children'

b. Mi-bvunzo ya-ka-bvunz-w-a mu-dzidzizi ne-va-na
4-question 2SM-PST-ask-FV 1-teacher by-2-child
'Questions were asked the teacher by the children'

Finally, I will consider ditransitives in which one object is obligatory and the other can be optionally left out. The verbs that belong to this class are *kumbira*, 'ask for', *yamwisa*, 'feed', *zora*, 'smear', *rakidza*, 'show'. The two objects can both occupy the syntactic position of the direct object as illustrated in a transitive construction.

(2.65) a. Beatrice na-Stella va-ka-kumbir-a va-enzi mari
1a-name CON-1a-name 2SM-PST-ask for-FV 2-guest 9-money
'Beatrice and Stella asked for money from guests'

b. Beatrice na-Stella va-ka-kumbir-a mari va-enzi
1a-name CON-1a-name 2SM-PST-ask forFV 9-money 2-guest
'Beatrice and Stella asked for money from visitors'

The two can both be object marked:

(2.66) a. Beatrice na-Stella va-ka-va-kumbir-a mari
1a-nameASS-1a-name 2SM-PST-2OM-ask for-FV 9-money
'Beatrice and Stella asked for money from them'

b. Beatrice na-Stella va-ka-i-kumbir-a va-enzi
1a-nameASS-1a-name 2SM-PST-9OM-ask for-FV 2-guest
'Beatrice and Stella asked for it from guests'

Passivisation is possible with both objects:

(2.67) a. Va-enzi va-ka-kumbir-w-a mari na-Beatrice na-Stella
2-guests 2SM-PST-ask for-PASS-FV 9-money 1a-nameCON-1a-name
'Guests were asked for money by Beatrice and Stella'

b. Mari ya-ka-kumbir-w-a va-enzi na-Beatrice na-Stella
9-money 9SM-PST-ask for-PASS-FV 2-guest 1a-nameCON-1a-name
'Money was asked for from guests by Beatrice and Stella'

Syntactically, the two objects in the different types of ditransitives, have all the formal properties of direct objects. Thus at least for ChiShona the two objects found with ditransitive verbs must both be analysed as direct objects. Given this outcome, one can hypothesise that derived double object constructions are likely to behave in the same manner since the two objects associated with the applicative verb are obligatorily subcategorised for by the verb. This is the discussion of the next subsection.

2.4.5 Object properties of derived ditransitive applicatives

What has occupied Bantuists for a time has been explaining the object symmetries and asymmetries found in applicative constructions. I now turn to how ChiShona objects behave by focusing on the following paradigms:

(2.68) a. SM..V_{appl} AO LO; V_{appl} LO AO
b. SM..$[AO]_{om}$ V_{appl} LO; $[LO]_{om}V_{appl}$ AO
c. $[AO]_{sm}$..$V_{applpass}$ LO; $[LO]_{om}V_{applpass}$ AO

Basically this focuses on word order, object marking and passivisation. The symbols used mean the following: SM is the subject marker and this subject marker can be for the logical object (LO) or can be an applied object (AO) depending on the property being considered. The verb is applicative in nature hence the suffix APPL after the verb or it can be an applicative-passive verb as seen in property (2.68c). I now turn to word order.

(2.69) a. Vimbai a-ka-bik-ir-a v-ana sadza
1a-name 1SM-PST-cook-APPL-FV 2-child 5-sadza
'Vimbai cooked sadza for the children '
b. Vimbai a-ka-bik-ir-a sadza v-ana
1a-name 1SM-PST-cook-APPL-FV 5-sadza 2-child
'Vimbai cooked sadza for the children'

Example (2.69) highlights the fact that the two objects can both occupy the position immediately after the verb. Because each one of these objects has this potential, tentatively it can be suggested that the two objects syntactically behave in a similar manner. These examples are similar to simple ditransitives which obligatorily subcategorises for two arguments, the "give", "refuse" and "hand" examples. ChiShona differs from other Bantu languages like Kichaga, Sesotho (which are considered to be symmetrical like ChiShona) in permitting the two orders resulting in both constructions being acceptable[25]. Thus the object orders AO LO and LO AO are both allowed in ChiShona. Why it is possible to have these two orders is pragmatically determined and it is most likely to be due to focus. A speaker might say (2.69a)

[25]Although (Demuth et al. 2000) concludes, that the unifying feature of the symmetrical and asymmetrical languages is that both types of languages are similar in placing the benefactive argument immediately after the verb, so that the order of the benefactive constructions is restricted to benefactive, theme/patient in all Bantu languages, given the data above, ChiShona is exceptional

instead of (2.69b) because he/she wants to highlight or focus on perhaps *vana* and hence has *vana* immediately after the verb.

As exemplified in (2.70), either the applied object or the logical object can be object marked. ChiShona morphology does not allow for the double marking of object markers which is a definition of a symmetrical language par excellence as shown in example(2.70c).[26]

(2.70) a. Vimbai a-ka-va-bik-ir-a sadza
1a-name SM-PST-2OM-cook-APPL-FV 5-sadza
'Vimbai cooked sadza for them '

b. Vimbai a-ka-ri-bik-ir-a v-ana
1a-name 1SM-PST-5OM-cook-APPL-FV 2-child
'Vimbai cooked it for the children'

c. *Vimbai a-ka-ri-va-bik-ir-a va-na
1a-name 1SM-PST-5OM-2OM-cook-APPL-FV 2-child
'Vimbai cooked it for them'

The two objects show that they can trigger object marking on the verb and hence any of them can be pronominalised. This is further evidence, in addition to word order, to show that both objects have direct object properties.

Similarly, in (2.71) it is observed that either *vana* 'children' or *sadza* can be the subject of the corresponding passive constructions:

(2.71) a. V-ana va-ka-bik-ir-w-a sadza na-Vimbai
2-child 2SM-PST-cook-APPL-PASS-FV 5-sadza by-1a-name
'Children were cooked sadza by Vimbai'

b. Sadza ra-ka-bik-ir-w-a vana na-Vimbai
5-sadza 5SM-PST-cook-APPL-PASS-FV 2-child by-1a-name
'Sadza was cooked for the children by Vimbai'

Example (2.71) shows that both the applied and the logical object may assume the direct object status characterised by the ability to passivise. Note that in terms of suffix ordering, in ChiShona the applicative suffix precedes the passive. If the passive comes before the applicative, it is rendered ungrammatical as shown in sentence (2.72):

[26]It behaves like Sindebele; Siziba (1995), Sesotho; Machobane (1989), Gitongo and Chichewa; Mchombo & Firmino (1999).

(2.72) *Sadza ra-ka-bik-w-ir-a v-ana na-Tanga
5-sadza 5SM-PST-cook-PASS-APPL-FV 2-child by-1a-name
'Sadza was cooked for children by Tanga'

Passivisation occurs after applicativisation[27] . As already discussed in the section on object deletion, verbs like *cook, read, eat* can have two instantiations, transitive and intransitive. In a like manner, applicative verbs can also have two instantiations, ditransitive and transitive. The deleted object can easily be understood from the discourse context[28]:

(2.73) a. Vimbai a-ka-bik-ir-a vana sadza
1a-name 1SM-PST-cook-APPL-FV 2-child 5-sadza
'Vimbai cooked sadza for the children' (Ditransitive Form)

b. Vimbai a-ka-bik-ir-a vana
1a-name 1SM-PST-cook-APPL-FV 2-child
'Vimbai cooked for the children ' (Transitive Form)

c. *Vimbai a-ka-bik-ir-a sadza
1a-name 1SM-PST-cook-APPL-FV 5-sadza
'Vimbai cooked for sadza'

Examples (2.73b) show that a ditransitive can in some context syntactically appear as a transitive. Though this is the case that syntactically a ditransitive form becomes transitive, it is semantically still ditransitive. The use of *bikira* determines that some entity is being cooked, but this might not need to be specified in the context. Depending on the type of verb, object deletion is possible. As pointed out by (Bresnan & Moshi 1990) symmetrical type languages are the only ones that can undergo this process. Object deletion therefore defines ChiShona as a prototypical symmetrical language.

To summarise, it is clear from the examples that in applicative constructions both NPs can show the syntactic properties of adjacency in relation with the verb, control object marking and passivisability. What is presented above provides evidence of similarity in the status of the post verbal NPs in double object constructions in ChiShona *vis-a-vis* various grammatical tests. Both the applicative object and the logical object must be seen as direct objects.

[27]According to (Wald 1994) the order APPL-PASS should indicate that the AO has been passivised while the order PASS-APPL as found in other Bantu languages should be associated with LO passivisation. However, as can be seen from ChiShona examples, ChiShona does not have this constraint the order in all instances is APPL-PASS and cannot be changed.

[28]Bresnan & Moshi (1993) show that object deletion is a property found in symmetrical languages only.

2.4.6 Status of objects of other types of applicatives

Syntactically, it has been concluded that the applicative morpheme increases the valency of the verb by one. The aim of this section is to see whether the applied objects added in intransitive and ditransitive cases behave like the prototypical applied object of derived ditransitives, using the tests used above. The word order test is irrelevant for the intransitive as there is only one 'object' which must come after the verb.

Derived Transitive Constructions

(2.74) a. Jesu a-ka-f-a
1a-Jesus 1SM-PST-die-FV
'Jesus died'

b. Jesu a-ka-f-ir-a va-nhu
1a-Jesus 1SM-PST-die-APPL-FV 2-person
'Jesus died for people '

Vanhu by its positioning is a direct object of the verb. Furthermore, we can object mark *vanhu* 'people' as well as passivise it as sentences (2.75a) and (2.75b) show respectively:

(2.75) a. Jesu a-ka-va-f-ir-a
1a-Jesus 1SM-PST-2OM-die-APPL-FV
'Jesus died for them'

b. Va-nhu va-ka-f-ir-w-a na-Jesu
2-person 2SM-PST-die-APPL-PASS-FV by-1a-Jesus
'People were died for by Jesus '

The applied object thus behaves like an object of a basic transitive verb.

Derived Tritransitives

ChiShona as already illustrated in section (2.3) has the ability to allow up to three post verbal lexical object noun phrases, where there is a basic ditransitive verb extended by the applicative suffix.

(2.76) a. Baba va-ka-nyim-a imbwa chi-kafu
1a-father 2aSM-PST-refuse-FV 9-dog 7-food
'Father refused the dog food '

b. Baba va-ka-nyim-ir-a mw-ana imbwa chi-kafu
1a-father 2aSM-PST-refuse-APPL-FV 1-child 9-dog 7-food
'Father refused the dog food for the child'

In terms of word order we see that any of the three objects can appear after the verb:

(2.77) a. Baba va-ka-nyim-a mw-ana imbwa chi-kafu
1a-father 2aSM-PST-refuse-FV 1-child 9-dog 7-food
'Father refused the dog food for the child '

b. Baba va-ka-nyim-ir-a imbwa mw-ana chi-kafu
1a-father 2aSM-PST-refuse-APPL-FV 9 dog 1-child 7-food
'Father refused the dog food for the child'

c. Baba va-ka-nyim-ir-a chi-kafu imbwa mw-ana
1a-father 2aSM-PST-refuse-APPL-FV 7-food 9-dog 1-child
'Father did not give the dog food for the child'

This in other words mean that *mwana, imbwa, chikafu*, 'child', 'dog' and 'food' respectively can occupy the position immediately after the verb and the interpretation of the sentence is not affected in any way but remain acceptable.With these sentences there are six possible object positions, for each object can be the first, second or third object and still maintain the same interpretation.

Object marking is possible for all the three post-verbal objects as example (2.78) shows:

(2.78) a. Baba va-ka-mu-nyim-ir-a imbwa chi-kafu
1a-father 2aSM-PST-1OM-refuse-APPL-FV 9-dog 7-food
'Father refused the dog food for it/him/her'

b. Baba va-ka-i-nyim-ir-a mw-ana chi-kafu
1a-father 2aSM-PST-9OM-refuse-APPL-FV 1-child 7-food
'Father refused it food for the child'

c. Baba va-ka-chi-nyim-ir-a mw-na imbwa
1a-father 2aSM-PST-7OM-refuse-APPL-FV 1-child 9 dog
'Father refused the dog it for the child'

From this, one can conclude that the three internal arguments exhibit properties associated with direct objects. In addition, any of the three post-verbal arguments can occupy the passive subject position as exemplified below:

(2.79) a. Mw-ana a-ka-nyim-ir-w-a imbwa chi-kafu na-baba
1-child 1SM-PST-refuse-APPL-PASS-FV 9-dog 7-food by-1a father
'The dog was refused food for the child by father'

b. Imbwa ya-ka-nyim-ir-w-a mw-ana chi-kafu na-baba
9-dog 9SM-PST-refuse-APPL-PASS-FV 9-dog 7-food by-1a father
'The dog was refused food for the child by father'

c. Chi-kafu cha-ka-nyim-ir-w-a mw-ana imbwa na-baba
7-food 7SM-PST-refuse-APPL-PASS-FV 1-child 9-dog by-1a father
'Food was refused the dog for the child by father'

The above examples show clearly that all the three objects are direct objects. This is in line with what happens with prototypical applicative constructions. The conclusion to be drawn therefore, is that the applied object introduced has direct objecthood status.

To summarise so far, the applied suffix licenses the introduction of an extra (NP) object (which is interpreted as a beneficiary and is normally human, since actions are typically performed for someone's benefit). This extra NP behaves in exactly the same way as a prototypical direct object. Hence we conclude that the applicative construction introduces an additional direct object.

The main properties of the applicative constructions have been established. The section above has given an explanation of the nature and scope of what it means to be a standard applicative construction in ChiShona. Though it has been argued that the two objects found in the applied construction are both direct objects, section 2.5 shows that when we take the notion of animacy into account, a complication to our conclusion arises. The following section shows that the syntactic behaviour of the applied object is not just sensitive to grammatical aspects but also to pragmatic/semantic factors.

2.5 Animacy effects

The data in the preceding sections provide a clear case of a language in which the two objects found within an applicative construction behave syntactically like direct objects. However, the behaviour of double objects in some Bantu languages is not only a grammatical issue, as is the case of languages like Chichewa, but is also affected by semantic/pragmatic factors ((Hawkinson & Hyman 1974); ChiShona and (Morolong & Hyman 1977); Sesotho and reiterated by (Mchombo & Firmino 1999) for Gitongo). In this section I will show that when such pragmatic and discourse

factors as animacy are taken into consideration, the behaviour of the two objects is not as flexible as given above but is constrained. Word order in some Bantu languages is governed by animacy (Bentley (1994)). In the context of applicative constructions animate NPs may have priority over inanimate NPs for the control of certain sentential positions, namely post-verbal object, passivised subject and object marking slots. The effects of animacy will be looked at in terms of word order, passivisation and object marking as summarised by the following patterns:

(2.80) a. SM..V_{app} AO[AN] LO[INAN]
b. SM..V_{app} AO[INAN] LO[AN]
c. SM..V_{app} AO[AN] LO[AN]
d. SM..V_{app} AO[INAN] LO[INAN]
e. SM..OM_{an}[LO]V_{app} AO[AN]
f. SM..OM_{an}[AO]V_{app} LO[AN]
g. AO[SM_{an}]..$V_{apppass}$ LO[AN]
h. LO[SM_{an}]..$V_{apppass}$ AO[AN]

Patterns in (2.80) look at the diagnostics of objecthood. At a general descriptive level, these patterns look at the two objects when they are both animate (AN) or when both are inanimate (INAN), in different word orders as well as passivisation and as object marked since I am trying to show the influence of animacy on these syntactic tests.

2.5.1 Influence of animacy on word order

In most Bantu languages[29] in relation to applicative constructions, an animate object which is beneficiary typically precedes an inanimate object NP which bears the patient/theme role.[30] The paradigm in (2.80a) is illustrated below from Runyambo:

(2.81) a. a-ka-teec-er-a kato ebitooce
3SM-PST-cook-APPL-FV Kato bananas
'She cooked bananas for Kato'
b. *a-ka-teec-er-a ebitooce kato
3SM-PST-cook-APPL-FV bananas Kato

Rugemalira (1993:228)

[29]Kikiyu; (Zaenen (1984)); Runyambo; Rugemalira (1993); Sesotho (Hyman & Duranti (1982) and Kihaya; Hyman & Duranti (1982).

[30]Such occurrence has been said to be due to the thematic hierarchy as will be shown in chapter 3.

In Sesotho when the animate is a patient/theme role, it precedes the beneficiary role as illustrated below:

(2.82) a. Ke-bi-tsel-its-e bana mokete
1SG-PST-call-APPL-FV children feast
'I called the children for the feast'

b. *Ke-bi-tsel-its-e mokete bana
1SG-PST-call-APPL-FV feast children

Hyman & Duranti (1993:225)

The examples above show how animacy restricts the post-verbal word order of co-occurring animate and inanimate lexical object NPs regardless of their semantic roles. An animate NP is restricted to occupying the position immediately after the verb. ChiShona, on the other hand behaves differently.

(2.83) a. Kundishora a-ka-bik-ir-a Anotida bota
1a-name 1SM-PST-cook-APPL-FV 1a-name 5-porridge
'Kundishora cooked porridge for Anotida'

b. Kundishora a-ka-bik-ir-a bota Anotida
1a-name 1SM-PST-cook-APPL-FV 5-porridge 1a-name
'Kundishora cooked porridge for Anotida'

In these examples it does not matter what the order of the objects is. Interpretation associates the human with the AO and the inanimate with the LO. The reason for this being that it is the only association that makes pragmatic sense. Sentence (2.83b), for instance, gives an anti-pragmatic interpretation, that is, 'Kundishora cooked Vimbai for sadza'. In order to interpret the examples above, all we need is the notion of pragmatic likelihood, that is PLAUSIBILITY. It is only plausible that Kundishora cooked sadza and not the child. Word order does not affect this interpretation. This seems to be generally the case with cases in which the AO is animate and the logical object is inanimate. Pragmatics tells us which is the AO and which is the LO hence the two objects can freely occur after the verb.

However, although this is the general norm, there are cases in which the word order of the two postverbal objects is fixed, for changing the two noun phrases around entail a change in interpretation as exemplified below:

(2.84) a. Sa-bhuku va-ka-daidz-ir-a mu-sangano va-bereki
1a-headman 2aSM-PST-call-APPL-FV 3-meeting 2-parent
'The headman called parents for/to a meeting'

b. Sa-bhuku va-ka-daidz-ir-a va-bereki mu-sangano
1a-headman 2aSM-PST-call-APPL-FV 2-parent 3-meeting
'The headman called a meeting for parents/The headman called to a meeting parents'

(2.85) a. Baba va-ka-teng-er-a purazi mombe
1a-father 2aSM-PST-buy-APPL-FV 5-ranch 10-cow
'Father bought cows for a ranch'

b. Baba va-ka-teng-er-a mombe purazi
1a-father 2aSM-PST-buy-APPL-FV 10-cow 5-ranch
'Father bought a ranch for the cows'

In these examples pragmatics is not sufficient to interpret which is the AO (except in a rich context) for sentence (2.84a) the reading, 'The headman called a meeting for parents' is also available. The same is true in example (2.85b), the reading, 'Father bought a ranch for the cows' is also available. From these examples, we know at least that the post verbal order INANIMATE-ANIMATE can be ambiguous for role, as long as either interpretation makes sense. In this case in order to resolve ambiguity the order AO-LO are fixed giving us what is referred to in the literature as the TRANSITIVITY ORDER (Wald (1993)).

As for examples in which two objects are both animate there are constraints associated with word order just like those introduced above. In such examples there is no difference in terms of inherent topicality (that is not one of the objects is more prominent than the other). Ordering in these cases is fixed since animacy influences the way the two objects occur. As shown in example (2.86) and (2.87):

(2.86) a. Baba va-ka-rov-er-a va-sikana va-komana
1a-father 2aSM-PST-beat-APPL-FV 2-girl 2-boy
'Father beat the boys for the girls'

b. Baba va-ka-rov-er-a va-komana va-sikana
1a-father 2aSM-PST-beat-APPL-FV 2-boy 2-girl
'Father beat the girls for the boys'

(2.87) a. Tsuro ya-ka-simudz-ir-a nyoka kamba
9-hare 9SM-PST-lift-APPL-FV 9-snake 9-tortoise
'Hare lifted a tortoise for the snake'

b. Tsuro ya-ka-simudz-ir-a kamba nyoka
9-hare 9SM-PST-lift-APPL-FV 9-tortoise 9-snake
'Hare lifted a snake for the tortoise'

In the data above we have a clear grammatical ordering constraint with the fixed order AO-LO. We also can see that word order and interpretation in these examples correlate. Thus when animacy is equal word order is fixed, the object that occurs immediately after the verb is interpreted as the beneficiary.

This is also true in cases when we have tritransitive constructions or simple ditransitives:

(2.88) a. Baba va-ka-p-ir-a mai v-ana mari
1a father 2aSM-PST-give-APPL-FV 1a mother 2-child 9 money
'Father gave money to the children for mother '

b. Baba va-ka-p-ir-a v-ana mai mari
1a father 2aSM-PST-give-APPL-FV 2-child 1a mother 9 money
'Father gave money to mother for the children'

As to which is the beneficiary or recipient is distinguished syntactically by word order. The object that occurs immediately after the verb is the applied object with a beneficiary reading.

The same logic should indeed hold for instances when the two objects are inanimate. Just like in examples (2.86) and (2.87) there is a grammatical constraint that the order has to be AO-LO as is indicated below:

(2.89) a. Sekuru va-ka-vez-er-a tafura zvi-garo
1a-grandfather 2aSM-PST-carve-APPL-FV 9-table 8-chair
'The old man carved chairs for the table'

b. Sekuru va-ka-vez-er-a zvi-garo tafura
1a-grandfather 2aSM-PST-carve-APPL-FV 8-chair 9-table
'The old man carved a table for the chairs'

(2.90) a. Mayi va-ka-teng-er-a komichi ndiro
1a-mother 2aSM-PST-buy-APPL-FV 9-cup 9-plate
'Mother bought a plate for the cup'

b. Baba va-ka-teng-er-a ndiro komichi
1a-mother 2aSM-PST-buy-APPL-FV 9-plate 9-cup
'Mother bought a cup for the plate'

A number of generalisations can be made from the above section. In the context in which the AO is animate with an inanimate logical object, the construction is not pragmatically ambiguous. This is because in such cases, only one of the two objects can be pragmatically interpreted as AO. There is no constraint on the post verbal order of objects. However, in the context where the AO is inanimate or in the case where the two objects are equal in animacy, we find that there is pragmatic ambiguity. In these cases either of the two objects can be pragmatically interpreted as the AO. There is a constraint on post verbal which we will refer to as the POST VERBAL TRANSITIVITY ORDER CONSTRAINT (which is a fixed ordering constraint). This is a constraint on the fixed occurrence of AO-LO and it operates under a number of further conditions enumerated below:

1. If both objects are animate of equal inherent topicality.
2. If both objects are inanimate of equal inherent topicality.
3. If we have unequal inherent topicality, that is when the AO is inanimate and the LO is animate.

When these conditions are available then the two postverbal noun phrases are fixed in their word order.

2.5.2 Influence of animacy on object marking

Another syntactic position in which animacy is said to play a role in the literature on Bantu applicatives is in the object marking slot. This is mainly illustrated by Kiswahili in which it is said only the animate object is marked on the verb for object agreement as shown earlier under object marking as a syntactic test. With other Bantu languages this can be highlighted in cases when we topicalise either of the two objects. Because Bantu languages generally require a topicalised object NP to be cross referenced on the verb, a conflict arises when the topicalised NP is inanimate and an animate NP follows the verb. Bentley (1994) gives the following examples from ChiShona which are said to illustrate how animacy overrides topicalisation with respect to control of the cross-reference slot.

(2.91) a. M-wana a-ka-mu-nyor-er-a tsamba
1-child 1SM-PST-1OM-write-APPL-FV 9-letter
'The child, he/she wrote to/for him/her, the letter'

b. Tsamba, a-ka-mu-nyor-er-a m-wana
9-letter 1SM-PST-1OM-write-APPL-FV 1-child
'The letter, he wrote to/for him, the child'

From examples (2.91a) it can be seen that the object NP *mwana* 'child' is cross referenced on the verb when it is in a topicalised position. Furthermore, it can also be seen that *mwana* 'child' can also be cross referenced when it occurs in a canonical post-verbal position even though the inanimate NP *tsamba* 'letter', is topicalised in sentence (2.91b). Following from this description then one gets the impression that we cannot topicalise an inanimate object and this is a conclusion reached by Hawkinson & Hyman (1974:152). It has to be said that this conclusion is wrong for as already seen in the previous section on object marking and topicalisation, it is possible to have *tsamba* topicalised as is demonstrated by sentence (2.92)

(2.92) Tsamba$_j$, a-ka-i$_j$nyor-er-a m-wana
9-letter 1SM-PST-9OM-write-APPL-FV 1-child
'The letter, he wrote it, to/for the child'

The only constraint which might still be explained by animacy is when we topicalise *tsamba* and it remains in the post-verbal position as indicated in example (2.93):

(2.93) ??M-wana a-ka-i$_j$nyor-er-a tsamba$_j$
1-child 1SM-PST-9OM-write-APPL-FV 9-letter
'The child wrote on it, the letter'

In instances where animacy is not equal it has been seen from previous data that we can object mark either the AO or the LO. However, when the two objects are equal in animacy there are constraints as to which object can be object marked. Following from the effects of animacy postulated in the word order test, the applied object is the object that has access to being object marked as illustrated by the sentences below:

(2.94) a. A-ka-sarudz-ir-a va-tambi mu-tungamiriri
3SG-PST-choose-APPL-FV 2-dancer 1-leader
'He chose a leader for the dancers'

b. A-ka-mu-sarudz-ir-a va-tambi
3SG-PST-1OM-choose-APPL-FV 2-dancer
'He chose dancers for him'

c. A-ka-va-sarudz-ir-a mu-tungamiriri
3SG-PST-2OM-choose-APPL-FV 1-leader
'He chose a leader for them'

(2.95) a. Sekuru va-ka-vez-er-a cheya tafura
1a-grandfather 2aSM-PST-carve-APPL-FV 10-chair 9-table
'The old man carved a table for the chairs'

b. Sekuru va-ka-dzi-vez-er-a tafura
1a-grandfather 2aSM-PST-10OM-carve-APPL-FV 9-table
'The old man carved the table for them'

c. Sekuru va-ka-i-vez-er-a cheya
1a-grandfather 2aSM-PST-9OM-carve-APPL-FV 10-chair
'The old man carved chairs for it'

If both objects are animate or inanimate, like in Chichewa or Kiswahili, only the AO can become object marked. So the object that appears as an incorporated pronoun is interpreted as an applied object. This shows that in such examples as well as in word order examples, the applied object is the only object that has direct object properties.

2.5.3 Animacy and Passivisation

In some Bantu languages, it is not possible to passivise an inanimate object over an animate object[31]. This means that when an animate cooccurs with an inanimate object the animate in these languages has priority over the inanimate NP for the subject position of a passive construction as shown by the following Kiswahili example (2.96).

(2.96) a. m-toto a-li-nunul-i-w-a ki-tabu
1-child 1SM-PST-buy-APPL-PASS-FV 7-book
'The child had a book bought for him'

b. *ki-tabu ki-li-nunul-i-w-a m-toto
7-book 7SM-PST-buy-APPL-PASS-FV 1-child
'The book was bought for the child'

Because the beneficiary is higher in animacy than theme/patient we find that it can be passivised. This shows that an inanimate (since its not high in animacy) cannot be passivised in the presence of an animate. ChiShona on the other hand, allows such passivisation as illustrated by the cognate of (2.97) which is acceptable:

[31] This is illustrated by languages like Kiswahili Bentley (1994), Ngonyani (1996); Hibena Hodges (1977), Hodges & Stucky (1979); Siswati De Guzman (1987), Chichewa Alsina & Mchombo (1992), Alsina & Mchombo (1993), Mchombo (1999) and Mchombo & Firmino (1999)

(2.97) Bhuku ra-ka-teng-er-w-a mw-ana
5-book 5SM-PST-buy-APPL-PASS-FV 1-child
'The book was bought for the child'

This is because the roles are pragmatically unambiguous, and the animate object is seen as an applied object and the basic object maintains its role, thus there is no constraint which is present in Kiswahili.

However, when the two objects are equal in terms of animacy, they are restricted as to which object has access to the subject position. Thus, if both objects are animate or inanimate, only the AO can become the subject of the applicative-passive sentence. The LO cannot occupy this position. This is exemplified by the following examples:

(2.98) a. Va-tambi va-ka-sarudz-ir-w-a mu-tungamiriri
2-dancer 2SM-PST-choose-APPL-PASS-FV 1-leader
'A leader was chosen for the dancers'

b. Mu-tungamiriri a-ka-sarudz-ir-w-a va-tambi
1-leader 1SM-PST-choose-APPL-PASS-FV 2-dancer
'Dancers were chosen for the leader'

(2.99) a. Zvi-garo zva-ka-vez-er-w-a tafura
8-chair 8SM-PST-carve-APPL-PASS-FV 9-table
'The table was carved for the chairs'

b. Tafura ya-ka-vez-er-w-a zvi-garo
9-table 9SM-PST-carve-APPL-PASS-FV 8-chair
'The chairs were carved for the table'

The object that is in the subject position is the applied object as can be seen from the interpretation of the sentence. It is the only object that has direct object properties.

To summarise this section, we can say that when animacy is equal the order of the two post-verbal objects is constrained to being fixed AO LO because both the arguments potentially have the AO role. Thus because of this constraint, we find that the object that is object marked is the applied object only and the object that becomes the passive subject has the applied object role. This section provides evidence of difference in the status of the post-verbal NPs in applied double object constructions *vis-a-vis* animacy. When animacy is equal, it is only the applied object that has direct object properties.

What this section has further highlighted which is not predictable from the data provided by people like Hawkinson & Hyman (1974) is the fact that when the AO is inanimate and the LO is animate then there is also a constraint of the object order being AO LO when the animate can easily be interpreted as having the AO role. This shows that when animacy is equal, and when the AO is inanimate then AO is pragmatically ambiguous since both objects can easily be interpreted as being the applied object. Chishona invokes a post-verbal transitivity order strategy such that the FIRST object (the one closest to the verb) is the AO. This pragmatic ambiguity is maintained in the object marking position as well as in passivisation. It has to be pointed out that many analyses on applicatives has avoided this area since it is marked with vagueness. However, what this section has highlighted is the complication brought about by the involvement of animacy.

This section has raised a number of issues in relation to the categorisation of ChiShona in terms of symmetrical or asymmetrical properties. Taking into account the data presented in this chapter, ChiShona cannot easily be categorised as either symmetrical or asymmetrical. First, we cannot say that ChiShona is a fully-fledged asymmetrical language for as shown, under certain conditions, namely, in neutral contexts, when the objects are not equal, either one can behave as a direct object. Second, it is clear that ChiShona cannot be analysed as a symmetrical language, since such a position means that both objects invariably display direct object properties, which in fact is not true, when we take the influence of animacy into consideration. In this context, only one object at a time will be adjacent to the verb, object marked and passivised. ChiShona therefore exhibits properties that cut across the dichotomy between asymmetrical and symmetrical languages. A detailed discussion of the limitations of this classification are found in the chapter to follow.

2.6 Conclusion

This chapter has provided a basic description of what can be termed canonical applicative construction in Chishona. Section 2.2 gave the general morpho-syntactic features of a basic applicative construction. This section concluded that any morphological modification of a verb by an applicative suffix, an underspecified *-r* if (Jefferies 1998) and (Myers 1994) are correct resulted in the addition of an extra argument with a beneficiary interpretation. Section 2.3 concentrated on the productivity nature of the applicative morpheme, with the results that it is very productive since it can be attached to intransitives, transitives as well as ditransitives. From

these sections it was shown that Chishona unlike, Kiswahili and Chichewa systematically excluded the instrumental which is always analysed in the literature as a likely prototypical applicative construction. As Chapter 3 will show the instrumental is only alluded to in most analyses because it seems to behave differently from the beneficiary applicatives.

In line with analyses on applicative constructions, section 2.4 focused on the syntactic characteristics associated with the applied object. Section 2.4 concluded that Chishona is a language that has access to two direct objects. This was exemplified by the applicative construction as well as the simple ditransitive constructions.

Section 2.5 showed that double object constructions in Chishona are also sensitive to pragmatic/semantic factors such as animacy. It was shown in this section that we cannot easily conclude that Chishona is a purely symmetrical language, for when animacy is included, the double objects behave in an asymmetrical manner. Passivisation and object marking in Chishona is not governed by animacy as in other Bantu languages. Animacy only becomes a factor when it is equal across objects.

In order to fully appreciate the underlying assumptions behind the two concepts, symmetrical and asymmetrical, the next chapter surveys the literature on applicative constructions. The next chapter gives a broad overview on formal theories that have analysed this phenomenon. I will in this chapter give the advantages and disadvantages of each theory looked at.

Chapter 3

Theoretical approaches to applicative constructions

3.1 Introduction

In the previous chapter, I discussed what are termed standard applicative constructions within Bantu languages. In this chapter I will focus on how the prototypical applicative construction is studied in various theoretical frameworks, showing the advantages and disadvantages of each framework.

Analyses of Bantu applicative constructions have been proposed from different theoretical perspectives. Most of these analyses are concerned with the benefactive applicative constructions but allude to instrumental or locative applicative constructions and the analysis of cross-linguistic syntactic patterns associated with the applied object in general. Baker (1988) and Bresnan and Moshi (1990)'s approaches to the applicative have had great impact on grammatical description and theorising about applicatives in general, as shown by the number of articles associated with these works.[1] The shortcomings of most of these analyses is that they have over-emphasised the syntactic aspect of the applicative at the expense of its semantic/pragmatic aspects, and have focused mainly on how different languages encode the syntactic aspects of the two arguments associated with the construction. In this thesis I differ from traditional analyses and concentrate on one language and focus on the applicative's semantic, pragmatic and syntactic properties.

This Chapter will show that there are mainly two schools of thought that have dealt with the applicative construction —the transformalists[2] and the lexical functional

[1] Alsina (1990), Harford (1991), Alsina & Mchombo (1992), Baker (1992), Garret (1992), Alsina & Mchombo (1993), Marantz (1993), Hoffman (1995) and see references within these articles.

[2] Baker (1988b), Marantz (1993), Machobane (1989), Hoffman (1995) and Ngonyani (1996)

grammarians[3]. What unifies these two frameworks is that both concentrate on the syntactic properties of the applied objects found within applicative constructions and make the assumption that they are asymmetrical in nature, that is, they behave differently.

In this chapter I take up the issue of how applicative constructions have been analysed by various researchers. In section 3.2 I describe how the construction has been studied from a traditional grammar perspective. Section 3.3 focuses on recent analyses and it is within this section that I give the shortcomings of these analyses. In subsection 3.3.1 I introduce a structural analysis as discussed by Baker and Marantz. I extend the discussion to include the main problems stemming from such structural analyses. Subsection 3.3.2 focuses on Lexical Functional Grammar analyses. I also discuss the main problems of this theoretical framework. Section 3.4 draws some conclusions from this chapter.

3.2 Traditional analyses

Within traditional analyses there is a general description of the basics of what the applicative is, how it is formed and what it means (Doke (1954) and Fortune (1955)). It has long been observed that the applicative processes in Bantu languages in general often affect the syntactic behaviour of the verb by adding another 'object' to the derived verb[4].

3.2.1 Traditional grammarians

Doke 1954, Fortune 1955

The attempt to describe the applied derivations in Chishona by Doke (1954), Fortune (1955) mainly centered on how the applicative is formed and what it means. According to the analysis of Doke and Fortune the meaning of the applied suffix is: 'action done on behalf of, or with regard to or proceeding towards a person or that it moves towards, or takes place on or at an object or place' (Fortune (1984:26)).

Moreover, traditionalists also focus on the different morphological rules that are associated with the suffixes and state that for a language like Chishona we find vowel variation, -ira being used when the stem-vowel is primary, that is *i, a* or *u*, and

[3]Alsina & Mchombo (1992), Bresnan & Moshi (1990), Harford (1993)
[4]Doke (1954), Fortune (1955), Guthrie (1967), Fivaz & Ratzlaff (1975)

-era when the stem-vowel is secondary, that is, *e* or *o*. The morphosyntactic aspects of the applicative construction were well established by traditional grammarians.

Guthrie 1962

In his classical paper titled *The Status of radical extensions in Bantu languages*, Guthrie (1962) presents an insightful analysis for handling extensions in Bantu languages which traditionalists like Doke (1954) and Fortune (1955) had not done. Guthrie sees the extensions as playing two major functions: as a lexical resource of word formation and second as determinants of the syntactic behaviour of the verbs.

He takes three features into account when handling extensions, namely, shape, function and meaning. Unlike his predecessors Guthrie makes a three way distinction, sound, meaning and function whilst Doke (1954) and Fortune (1955) make a two way distinction—sound and meaning. Function, according to Guthrie, deals with "differences in syntactic behaviour with respect to capacity of the verbals in which they occur to support the objects" (pg 203). Thus he characterises extensions according to whether they add, subtract or do not make any changes to the syntax of the verb as follows:

1. O+ adds an extra object as in causative and applicative derivations—the familiar transitivising process
2. O- subtracts an object, as in statives, reciprocal and passivisation —the familiar detransitivising process
3. O= maintains the same number of objects as in neuter, contactive and reversive

The importance of Guthrie's contribution is that the applicative construction is considered to be O+, in that it adds an extra argument, with a beneficiary interpretation. He notes that when the applicative is added in Kiswahili with an instrumental reading, then the function of the applicative is O=, while in Kongo a directive reading is O=. Guthrie reaches the conclusion that because a single unit, the applicative suffix, has two different functions, O+ or O=, this means that the different interpretations should be seen as discrete. From this one gets the impression that Guthrie treats the different types of applicatives as discrete elements because they behave differently in terms of their syntactic function. The applicative suffix is associated with two functions, an additive function and a function that does not change the argument structure. It is not surprising that recent analysts of the

same phenomenon have followed in Guthrie's footsteps, and analyse the different types as discrete elements.

Hawkinson and Hyman 1974

Hawkinson & Hyman can be said to provide the first genuine syntactic analysis of the Chishona applicative, done from a functional perspective. Reading through Hawkinson & Hyman (1974)'s article, one gets the impression that the applied verb only has a beneficiary interpretation. The two conclude that there are in Chishona various strategies for interpreting transitivity relations, sometimes by order of objects and sometimes by inherent topicality (a topical argument) —what they term NATURAL— TOPICALITY. For the two, the different strategies operate in different grammatical contexts. The shortcomings of their article are in the details that they overlook, as will be illustrated below.

An important contribution that they make is in cases when there are two animate objects. For instance, they provide the following example:

(3.1) Mu-rume a-ka-chek-er-a mw-ana mu-kadzi
1-man 1SM-PST-cut-APPL-FV 1-child 1-woman
'The man cut the woman for the child'

In these cases according to Hawkinson & Hyman (1974), the transitivity strategy insists on the AO LO post-verbal order because both objects are of equal inherent topicality, and thus a transitivity differential cannot help figure out transitivity. What the above suggests is that when both AO and LO are human third persons there is usually pragmatic ambiguity as to which is the AO and which is the LO, so one can just as easily conceive of 'cut the woman for the child' as ... the child for the woman'...EXCEPT for the post-verbal transitivity order strategy of AO LO. The example above highlights how a degree of animacy manifests itself in the syntax by strict ordering (Bentley (1994)). This is an important insight which researchers after Hawkinson and Hyman have never taken into consideration, as they do not tackle the complexities associated with such constructions.

Hawkinson & Hyman (1974) tackle some theoretical issues associated with the two objects, such as the fact that they both exhibit direct objecthood properties. Since we normally have an ambiguous reading between a beneficiary and 'dative' reading the two state that if the dative case relation is to be unambiguously specified, the dative can be postposed and preceded by the 'preposition' *ku-* 'to':

(3.2) Mu-rume a-ka-nyor-(*er)-a tsamba ku-mw-ana
1 man 1SM-PST-write-FV 9-letter 17-1-child
'The man wrote a letter to the child'

As can be seen above, these two authors claim that the applicative morpheme cannot occur when the goal is expressed by *ku-* . However, as will be shown in Chapter 4, the APPL can be used when *ku-* marks a locative argument. From this Hawkinson & Hyman (1974) seem to be saying that *ku-mwana* is not a locative argument. However, in Chishona locative arguments of this nature are found. Thus,

(3.3) Mu-rume a-ka-nyor-(er)-a tsamba ku-mw-ana
1-man 1SM-PST-write-FV 9-letter 17-1-child
'The man wrote a letter to the child'

is acceptable.

Then they go on to give properties of the direct objecthood status of the AO as well as the LO and they use topicalisation as one of their tests. They give the following example [their example 12]:

(3.4) *Tsamba a-ka-yi-nyor-er-a mw-ana
9-letter 1SM-9OM-PST-write-FV 1-child
'The letter, he wrote it to/for the child'

The above is an example of a pre-verbal topic context. Hawkinson & Hyman (1974) indicate that there are constraints associated with such topicalisation. One begins to wonder whether the above form is unacceptable, for if the above is starred as claimed by these two should not the following be starred as well?

(3.5) A-ka-yi-nyor-er-a mw-ana
1SG-9OM-PST-write-APPL-FV 1-child
'He wrote it to/for the child'

In fact example (3.4) is wrongly starred for it is acceptable. It is not clear as to why these two have this form starred.

Also, this constraint does not seem to apply to passivisation, where we might analyse the passive subject as highly topicalised yet the following are very much acceptable:

(3.6) a. Mw-ana a-ka-yi-nyor-er-w-a
1-child 1SM-9OM-PST-write-APPL-PASS-FV
'It was written for the child'

b. Tsamba ya-ka-mu-nyor-er-w-a
9-letter 9SM-1OM-PST-write-APPL-PASS-FV
'The letter was written to/for him/her'

In order to argue for their natural topicality strategy they focus on the person hierarchy and they have the following examples [pg 162 examples 36]:

(3.7) a. Nda-ka-mu-svipur-ir-w-a
1SG-PST-3SG-kiss-APPL-PASS-FV
'He was kissed for me'

b. A-ka-ndi-svipur-ir-w-a
3SG-PST-1SG-kiss-APPL-PASS-FV
'He was kissed for me'

As can be seen from the above instances the context is passivisation. According to Hawkinson & Hyman (1974), transitivity roles are the same, whether or not the SM and OM are switched. Because the strategy for interpretation in this context depends on the 'natural' topicality differential. The 1SG is inherently more topical than the 3SG, so it must be interpreted as the AO. Hawkinson & Hyman (1974) are proposing that disambiguation of transitivity roles is accomplished by matching transitivity with inherent topicality in this context. Thus in Hawkinson & Hyman 's example the above sentences will both be interpreted as 'He was kissed for me'. There certainly is need for more research on this because these two sentences are actually ambiguous, rather than be disambiguated by the personal hierarchy as suggested by Hawkinson & Hyman. For example in sentence (3.7a), him can also be the beneficiary, for that sentence can easily mean I was kissed for his benefit.

The contribution of this paper is the notion of natural topicality as well as to show that when two postverbal objects are equal in animacy they have a fixed order; applied object and logical object. This paper shows clearly that we have two different syntactic patterns associated with Chishona applicative constructions as explained fully in Chapter 2.

3.3 Recent analyses

Bantu applicative constructions have also been analysed in the Relational Grammar framework Kimenyi (1980) and Perlmutter & Postal (1983), in the Principles and Parameters Framework [5] and in Lexical Functional Grammar[6]. I will in this chapter focus on the latter two frameworks. Within these frameworks the applicative construction has been formulated as either involving a syntactic movement operation (as in Principle and Parameters approach) or a morpholexical operation, (as in Lexical Functional Grammar). I will first look at the structural analysis in subsection 3.3.1 and within this subsection I will look at two contending approaches. Then subsection 3.3.2 focuses on the morpholexical approach.

3.3.1 The Transformational-Syntactic Approach

Work on applicatives by Baker (1988, 1992), Marantz (1984, 1993), Hoffman (1991) and Ngonyani (1996) is within the framework of Government and Binding Theory (GB) (Chomsky 1981). The proposal within these works is that the applied verb is syntactically derived. In Baker's terms the applicative construction involves the introduction of a new object through an empty preposition while Marantz sees the operation through an applicative morpheme. There is a difference as to how the applicative is analysed, as will be seen in the discussion, though they are within the same framework. Despite this, there are two main points of consensus between these two— (i) the complex verb is formed by syntactic incorporation and (ii) different applied objects behave differently because of their structural positioning. In other words, they appear in different structural configurations. I will in this subsection look at Baker's proposal and then Marantz's proposal.

Baker 1988, 1990, 1992

This section gives a brief outline of Baker's (1988) analysis of applicative constructions. This section shows how Baker's analysis accounts for some asymmetries between beneficiary and instrumental applicative objects. The VP of sentence (3.8)

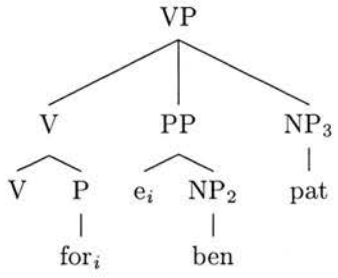
(3.8) Baba va-ka-teng-er-a mw-ana shangu
1a father 2aSM-PST-buy-APPL-FV 1-child 10 shoe
'Father bought shoes for the child'

[5] Baker (1988), Marantz (1984, 1993), Hoffman (1991) and Ngonyani (1996)

[6] Alsina & Mchombo (1988, 1992), Alsina & Mchombo (1993), Bresnan & Moshi (1990) and Harford (1993)

would have a D[eep]structure like:

(3.9)



Within Baker's analysis, the applicative is analysed as comparable to a preposition that undergoes head movement, affixing itself to the verb. Applicatives in Baker's analysis result from the incorporation of an empty preposition into the verb in a process similar to noun incorporation found in a language like Mohawk, a North American language (Baker 1988*a*). Structure (3.9) shows that the analysis postulates that there is an underlying prepositional object with a null preposition as head which is incorporated (or adjoined) to the verb. The abstract for, restricts the object it marks. The appearance of the PP object indicates the morphological marking of the verb by an applicative marker, and the object of preposition surfaces as the applied object of the verb as illustrated in (3.9).

When the preposition is moved it must leave a trace of category P which assigns the benefactive θ role to the stranded NP at Logical Form. The Projection Principle requires that the trace be present at S-structure as well since by assumption the verb theta marks a benefactive PP, and thus must have a PP sister at every syntactic level.

The benefactive, that is the object adjacent to the verb (first object) is structurally Case-marked by the V-P complex. Languages are then parameterised as to whether the second object (theme) receives inherent Case or Structural case. Chichewa inherently Case marks the theme while languages like Kichaga and Kinyarwanda structurally case mark their theme. One of the consequences of this analysis is that the first object takes over the direct object properties typically exhibited by the structurally case-marked theme in $[_{vp}$ V-NP-PP] structures.

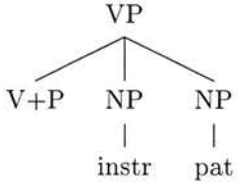
For example, the first object will passivise and control any available object marking. Languages tend to differ as to how they treat the second object because of the parameter regarding how the second object receives case. In some languages the

second object behaves asymmetrically from the first object, failing to be object marked for example; these are languages like Chichewa that give the second object inherent case. In other languages, the second object behaves symmetrically to the first object. For instance, it can passivise as easily as the first object: these are languages like Kichaga and Kinyarwanda that give the second object structural case.

Baker extends his analysis to account for asymmetries that exist between goals and instruments on one hand and beneficiaries on the other when they function as first objects in the applicative construction. Baker treats these asymmetries as reflections of how theta marking is accomplished structurally as shown in example (3.10) for an instrumental applicative. Unlike the other theta roles, the benefactive role is assigned directly by a preposition, and this fact is held responsible for the more constrained behaviour of benefactives regarding object marking, passivisation and adjacency to the verb.

The difference between the benefactive applicative and the instrumental applicative is that the P in the instrumental applicative is moved and it need not leave a trace, since it is not part of the lexically determined thematic structure of the clause. Here the verb theta marks an NP rather than a PP and the P does not assign a thematic role of its own. The VP in (3.10) contains two NPs which are directly theta marked by the verb, whereas the one in (3.9) has only one NP which is directly theta marked. According to Baker, technically, instrumental constructions have two objects while benefactive constructions have only one.

(3.10)



(Baker 1988*b*)

Baker (1988) hypothesises that asymmetries in the behaviour of different applied objects can be traced to the presence or absence of an underlying preposition which assigns a theta role before undergoing structural incorporation into the verb as a suffix. He makes the assumption that beneficiary and instrumental phrases are arguments of the verb whose D-structure representations are different: a beneficiary

is the NP complement of a preposition from which it receives its theta role (θ-role), and an instrumental is an NP sister of the verb, and therefore is θ marked by the verb as illustrated in figure (3.1)

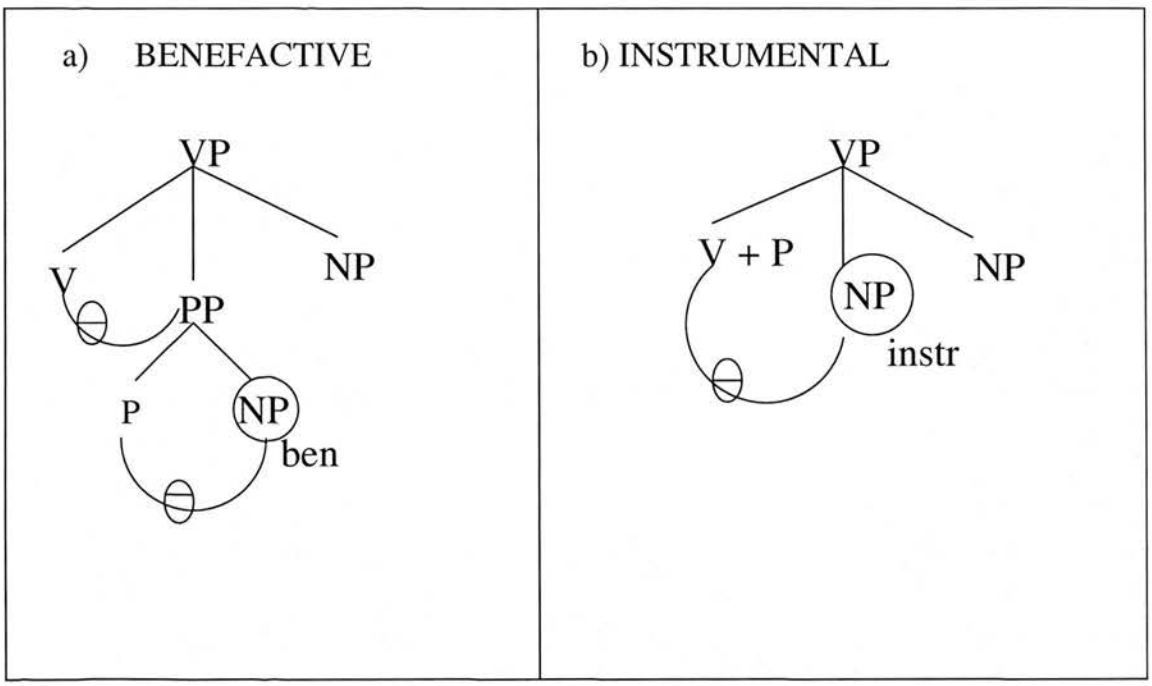


Figure 3.1: Role assignment of the benefactive and instrumental applicatives Baker[pg.359](1988)

Baker refers to the relationship between the circled NP and the verb in figure (3.1) as indicated in (3.1a) one of INDIRECT θ ROLE ASSIGNMENT, since the verb in fact theta marks the PP and not the NP itself;the analogous relationship in (3.1b) he refers to it as DIRECT θ ROLE ASSIGNMENT. Because of these differences in the D-STRUCTURE of benefactive and instrumental applicatives we find that in Chichewa if we change the two objects around, such that the logical object is adjacent to the verb and the beneficiary comes after it, the sentence is rendered ungrammatical as shown in example (3.11b)

(3.11) a. Chi-tsiru chi-na-gul-ir-a a-tsikana mphatso
7-fool 7SM-PST-buy-APPL-FV 2-girls 9 gift
'The fool bought a gift for the girls'

b. *Chi-tsiru chi-na-gul-ir-a mphatso a-tsikana
7-fool 7SM-PST-buy-APPL-FV 9 gift 2-girls
'The fool bought a gift for the girls'

This shows that when the theme appears immediately after the verb, the sentence is rendered unacceptable because the beneficiary fails to receive Case as exemplified in (3.11b). Instrumentals however, are postulated to be identical to patients and themes at D-structure, they are directly θ-marked by the verb, and can be assigned inherent Case. This means that in instrumental applicatives, either the patient or the instrument can receive structural case and either will appear in the immediate post verbal position, hence the grammaticality of either. The reader is referred to Baker (1988) for further details. Object marking and passivisation is also explained in this manner. As noted by Baker himself and Alsina & Mchombo (1993) with instrumentals, when it comes to passivisation Baker's theory should predict two syntactic realisations in which both objects should be subjects. But as shown by Baker and Alsina and Mchombo it is only the instrumental which can become the subject and so the theory over-generates and needs to be restricted.

Shortcomings of Baker's theory

Preposition-based analyses have proved inadequate to handle the differences that are brought about by the applicative construction as will be discussed below. The motivation behind Baker's analysis of the applicative structure is the existence of semi-paraphrases which contain simple prepositional phrases that typically express semantically oblique elements. In addition, there are verbal affixes that signal the increase in the transitivity of the verb. Such features have provided enough motivation for a transformationally-based analysis. Therefore, applicative constructions are derived from corresponding plain forms with prepositional phrases as exemplified by the Chichewa data from Alsina & Mchombo (1990):

(3.12) a. A-nyani a-na-yend-er-a ndodo
2-baboon 2SM-PST-walk-APPL-FV 9 stick
'The baboons were walking with a stick'

b. A-nyani a-na-yend-a ndi-ndodo
2-baboon 2SM-PST-walk-FV INSTR-9 stick
'The baboons were walking with a stick'

From this the idea then is that the preposition *with* is incorporated into the verb to form an applicative verb.

However, treating applicatives as transformationally derived constructions is problematic (see (Rugemalira 1994) and (Shibatani 1996) for similar arguments). This

is especially true in the cases of beneficiaries. For instance, in Chishona, no simple transformational operation is possible in relating benefactives and their semi-paraphrases as shown in example (3.13):

(3.13) a. Vimbai a-ka-teng-a bhutsu dze-mw-ana
1a-name 1SM-PST-buy-FV 10 shoe GEN-1-child
'Vimbai bought the child's shoes'

b. Vimbai a-ka-teng-er-a mw-ana bhutsu
1a-name 1SM-PST-buy-APPL-FV 1-child 10-shoe
'Vimbai bought the shoes for the child'[7]

As can be seen from the sentence *dze-* is a possessive marker and modifies the noun book. Using this as a semi-paraphrase which can be incorporated into the verb is not right, since in the alternative form the beneficiary meaning is overridden by the possessive one. Thus the sentence means "Vimbai bought the child's shoes' and not 'Vimbai bought shoes for the child'. This suggest that the applicative is better considered in its own right, independently from their semi-paraphrases. [8]

Locatives and goals also provide further evidence as to the reason why the applicative suffix in Chishona is not an incorporation phenomenon.

(3.14) a. Beatrice a-ka-tum-a Ramos ku-mu-sika
1a-name 1SM-PST-send-FV 1a-name 17-3-market
'Beatrice sent Ramos to the market place'

b. Beatrice a-ka-tum-ir-a Ramos ku-musika
1a-name 1SM-PST-send-APPL-FV 1a-name 17-3-market
'Beatrice sent Ramos to the market place'

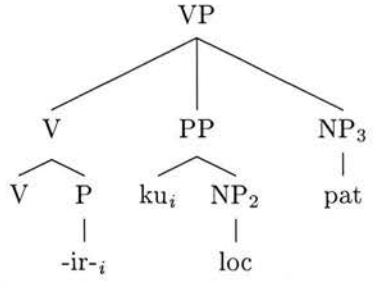
Locatives in Chishona just like those in other Bantu languages in general bear explicit locative morphology, i.e. a locative argument has to have some mark of some kind. Some Bantuists have claimed that this is a preposition marker of some

[7]Sentence (a) has been suggested to be a semi-paraphrase of the beneficiary applicative by Hawkinson & Hyman (1974)

[8]This is not unique to Chishona only. As shown by Shibatani this is also true for beneficiary constructions as found in Japanese. Other Bantu languages like Kichaga do not even have access to such paraphrases so it is difficult to see how such an analysis works in such a language. Chichewa's beneficiaries also do not have available these paraphrases

sort (Baker 1992) and (Alsina & Mchombo 1992)[9] . Incorporation theory entails adjoining the preposition to the verb, thus the preposition incorporates into the verb and leaves a trace as illustrated in structure (3.9) with the beneficiary example. But we see that with locatives this fails since the preposition is not empty; it is not incorporated for it still appears with the noun as shown in example (3.15).

(3.15)



The problem with these data is that it appears that two prepositions are associated with one NP, *-ir-* and *ku-*. It could be argued, following the copy theory of movement, that *ku-* is just a phonological remnant of the incorporated P. If that is the case, where does this phonological form derive from? *Ku-* and *-ir-* are phonologically distinct and so we are forced to assume that *ku-* cannot mark the trace of *-ir-*. Again we are led to the conclusion that there are two Prepositions and a single argument, violating both Case and theta theory.

Given the syntactic structure associated with modifiers it is difficult to see how Baker's theory of incorporation works with locative applicatives in Chishona as illustrated in figure (3.2).

[9]Locative prefixes are found in classes 16, 17 and 18 within the Chishona classification system and in all instances mark a locative relation. There is a controversial debate within Bantu linguistics as to whether these should be seen as part of the classification system or not. Kashina (2000) has argued that locatives should not be included in the noun classification system. However, in this thesis I will treat locatives as nouns. Arguments as to why I see them as this, will be given in Chapter4.

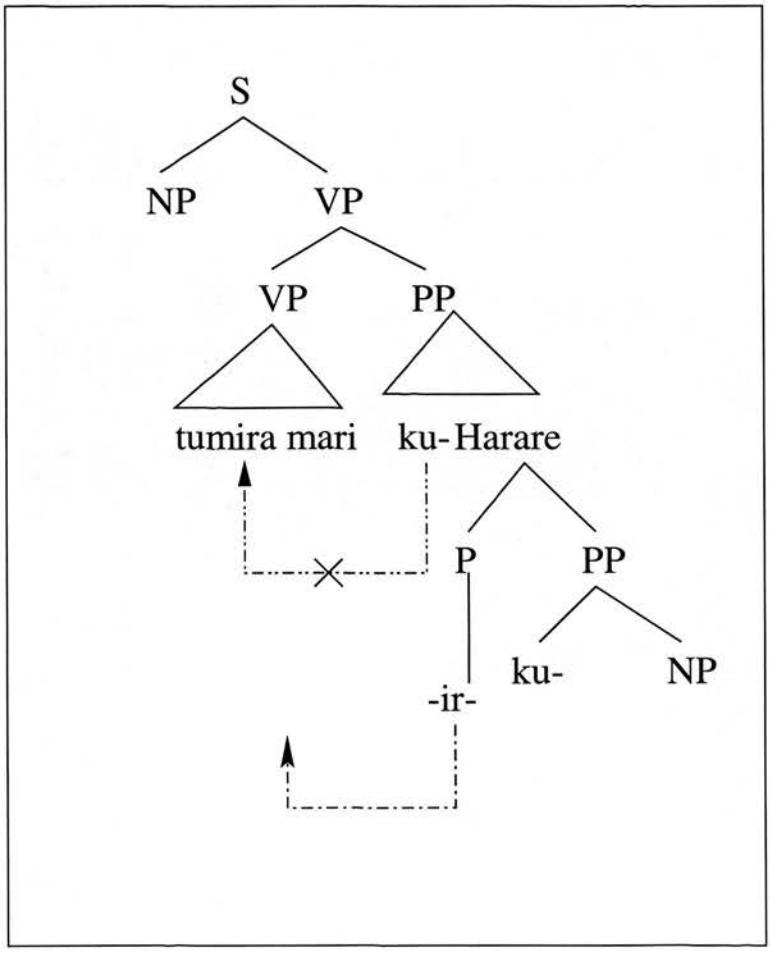


Figure 3.2: Structural Problem

The failure to incorporate is not just a characteristic of the locative but goal applicatives as well. Within Chishona we have what can be seen to be a preposition indicated as *kuna* with nouns in classes 1a and *ku-* with the rest of the nouns. We find that the locative marker can also co-occur with the applicative suffix, in a similar manner to the locative.

(3.16) a. Beatrice a-ka-tum-a mw-ana ku-na mbuya
1a-name 1SM-PST-send-FV 1-child 17-ASS 1a grandmother
'Beatrice sent a child to grandmother'

b. Beatrice a-ka-tum-ir-a mw-ana ku-na mbuya
1a-name 1SM-PST-send-APPL-FV 1-child 17-ASS 1a grandmother
'Beatrice sent a child to grandmother'

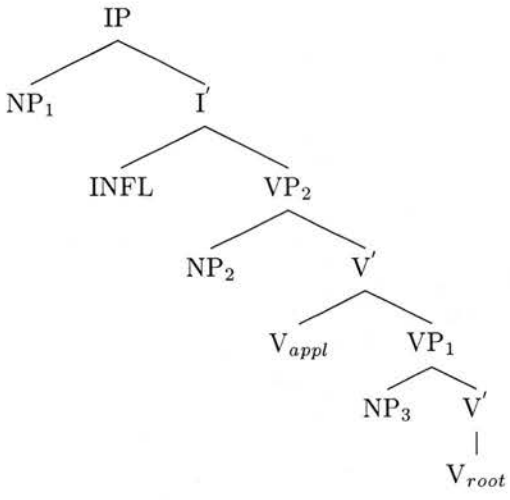
Example 3.16b shows that the incorporation analysis cannot be used within Chishona applicatives.

Bresnan & Moshi (1990) have presented evidence that suggests that Baker's account of applicatives is insufficient. They show that Kichaga, a language that admits two structural Cases in Baker's terms, treats the benefactive as parallel to the theme and instrument for the purposes of some phenomena such as passive, nevertheless the benefactive behaves differently from the theme or instrument in that it must be adjacent to the verb. Given these weaknesses in the theory alternative analyses have been suggested by Marantz (1993) within the same theoretical framework as well by Bresnan & Moshi (1990) within Lexical Functional Grammar as will be discussed in the following sections.

Marantz 1988, 1993

Within the syntactic-transformational approach there is a slightly different solution which is proposed by Marantz (1984, 1993) and adopted by Ngonyani (1996, 1997) in which double object constructions are analysed as complex predicates (Larson 1988), in which one VP is embedded in a matrix VP. In this proposal the applicative morpheme is seen as a head. Marantz (1993) assumes that the applicative construction results from raising the lower verb and adjoining it to the APPL, what he terms a Raising/Adjunction process:

(3.17)



NP_1 refers to the subject of the verb, while NP_2 is the applied object and in this instance it is the beneficiary applied object and NP_3 is the lexical (Theme) object.

In this approach, the applicative morpheme is treated as a verbal head which projects its own verbal projection with its own object. As can be seen there is a difference with Baker's theory in that the applicative suffix is treated as a verb and not a preposition. The lexical verb moves from its original position to the higher V where it is adjoined to the applicative morpheme. The structure has two VPs, and thus two Spec-VP positions are projected. Applicative constructions come out as having two objects, one introduced by the lexical verb, the other by the applied suffix. VP_1 is a complement of VP_2. Such an analysis implies that the applicative morpheme functions in a way similar to prepositions and locative morphemes in that it licenses the introduction of an additional argument.

The contribution that Marantz (1993) makes towards an understanding of the applicative construction is by providing a universal applicative structure in which there are two stacked VPs. Marantz (1993), like Larson (1988), assumes that the applicative construction, just like any other double object construction, are 'complex predicate' structures in which a verb takes as its complement a 'predicate' phrase like a VP, AP or PP. Thus the applicative construction has the following D-structure as shown in figure (3.3):

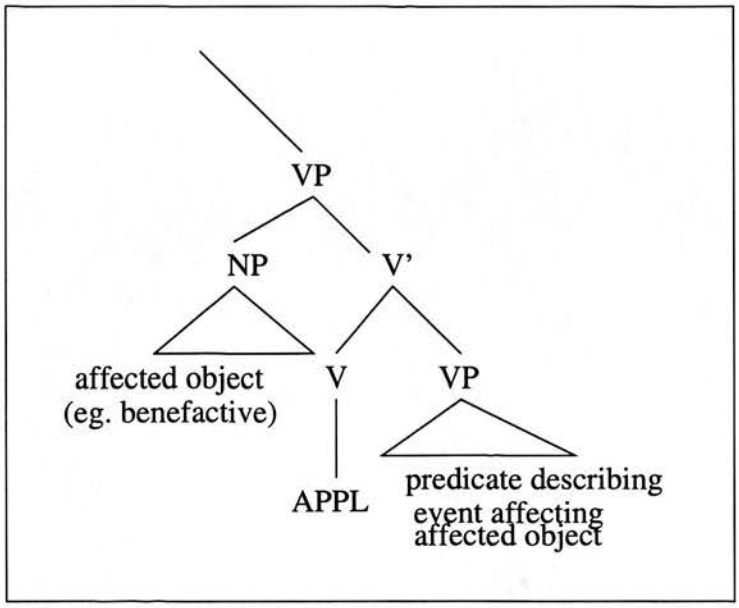
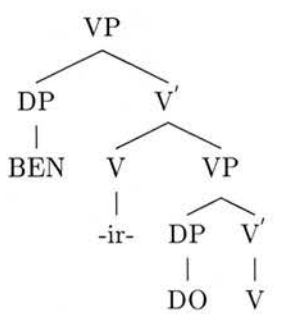


Figure 3.3: Marantz's universal applicative structure

In this structure, the APPL affix is treated as a verb that takes an 'event' argument semantically, a VP complement syntactically. The first or higher object is the semantic argument of the combination of APPL verb and lower VP. The lower VP includes the second or lower object (the theme or patient) which appears in a direct object position of this VP (Marantz 1993). Although thematic roles are often employed in GB analyses, Marantz (1993) proposes that deep structure is sensitive to richer semantic event structure so that syntactic projections reflect how speakers construe situations (Marten (2000)).

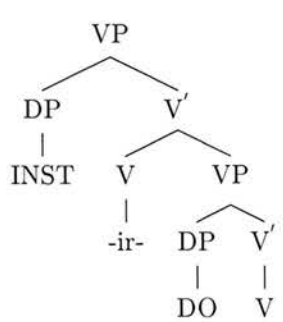
Explaining the difference in behaviour between the beneficiary and the instrumental applicatives, Marantz goes on to say that the beneficiary is outside the event structure which contains the verb and the theme/patient. This means that the beneficiary is restricted to be in the higher VP and not in the lower VP. The structure of the benefactive applicative is as shown in (3.18) below:

(3.18)



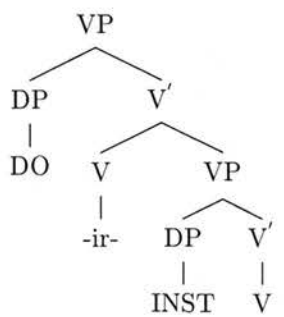
Instrumentals and locatives are classified together and the two are said to be in the event structure containing the direct object. The exact position of the two objects is not dictated by the event structure. For this reason, we find that either object in instrumental or locative applicatives may be higher as shown in structures (3.19) and (3.20).

(3.19)



Either object in the instrumental applicative can occupy the DP position as shown in (3.19) above and (3.20) below. In (3.19) the instrument c-commands the theme/patient while in (3.20) the theme/patient c-commands the instrument.

(3.20)



This shows why the two behave differently. Locatives are structured in the same manner as instrumentals.

Ngonyani (1996) uses evidence from VP ellipsis to show the advantages of a stacked complex structure for the applicative unlike Baker's structure. He shows that there will be two targets for ellipsis (i) the direct object can be deleted without the applied object and (ii) the applied object can only be deleted when the direct object is deleted as exemplified in the following Kindendeule sentences:

(3.21) a. n-ghɛni a-ki-hɛl-ɛ shuli hi-teβo
1 guest 1SM-PST-buy-APPL-FV 9 school 8 chair
'The guest bought the school some chairs'
na hokolo a-ki-hɛl-ɛ shuli hi-teβo helahe
and grandfather 1SM-PST-buy-APPL-FV 9 school 8 chair too
'and grandfather bought the school some chairs too'

b. na hokolo a-ki-hɛl-ɛ shuli helahe
and grandfather 1SM-PST-buy-APPL-FV 9 school too
'and grandfather bought the school (some chairs) too'

c. *na hokolo a-ki-hɛl-ɛ hi-teβo helahe
and grandfather 1SM-PST-buy-APPL-FV 8 chair too
'and grandfather bought some chairs too'

d. na hokolo a-ki-hɛl-ɛ helahe
and grandfather 1SM-PST-buy-APPL-FV too
'and grandfather did too'

In example (3.21b) the direct object can be left out and the sentence is still grammatical with the applied object. This shows there is a constituent which contains a V + basic object but excludes the beneficiary object. The ungrammaticality of (3.21c) shows that we do not have a constituent V + Beneficiary. In (3.21d) both objects are deleted and the sentence is grammatical. The beneficiary thus forms a constituent with the VP that contains the theme. Deletion shows that there are two targets for VP ellipsis; one is the minimal VP which contains the theme and the other VP is higher than the one containing the theme. Other structural approaches like Baker's ternary branching approach do not make such predictions. Such evidence as shown by Ngonyani supports Marantz's stacked analysis approach.

Though the instrumentals and locatives behave differently when it comes to syntactic properties as indicated by Ngonyani (1996) they all pattern in the same way with respect to VP ellipsis. The theme/patient in all cases is the one that can be deleted and so is in the smallest VP. The applied object is in the matrix VP such that when the matrix VP is deleted both objects disappear. In all applicatives, the VP containing the direct object is the minimal VP because it may delete without the applied object. The VP containing the applied object is the matrix VP because the applicative object can only be affected if both objects are deleted. This shows that the applied head has two arguments. One is the applied object and the other is the VP containing the V+ theme/patient.

Given Marantz (1993)'s analysis it is still difficult to see how his theory explains Chishona word order data. Marantz's theory predicts that the applied object is always the higher object while the logical object is always the lower object. The benefactive is always the first object linearly in the absence of object agreement. However, in Chishona this prediction is not borne out for either the applied object or the logical object may be the first object. The word order data in (3.22) show that either the applied object or the logical object may be the first object in the absence of object agreement.

(3.22) a. Beatrice a-ka-bik-ir-a v-ana sadza
1a-name 1SM-PST-hold-APPL-FV 2-child 5-sadza
'Beatrice cooked sadza for the children '

b. Beatrice a-ka-bik-ir-a sadza v-ana
1a-name 1SM-PST-hold-APPL-FV 5-sadza 2-child
'Beatrice cooked sadza for the children'

Marantz (1993)'s predictions are wrong for Chishona prototypical applicative constructions. From the above sections, the applicative construction is treated in terms of structural representations. However, as shown, a structural analysis is problematic for Chishona data. Using structural analyses does not fully account for Chishona data.

3.3.2 Lexical-Functional Grammar Approach

Bresnan & Moshi (1990) [10] provide an analysis of applicative constructions, in the framework of Lexical Functional Grammar (LFG). The main point of analysis in this framework is to establish the correct mapping (linking) relationships between elements of the LFG levels of representation function and argument structure (f-structure, a-structure). Another aspect of this theory is that it has the interest of establishing universal hierarchies of thematic roles.

Principles of LFG

Within this approach, the theory of grammar consists of representations of information structure[11]. The basic proposal advanced within LFG is that there is factorisation of syntactic representation of sentences into parallel structures with its primitives, organising rules and principles (Mchombo 1999*a*). These parallel structures include the overt organisation of the sentences, the constituent or categorial structure (c-s), modelled by phrase structure and/or word structure capturing the configurationality/nonconfigurationality parameter; the functional structure (f-s), which spells out the internal organisation of language required for semantic interpretation, normally represented in the form of attribute-value matrix (the f-structure represents this information as a set of ordered pairs each of which consists of an attribute and a specification of that attribute's value for a sentence. An attribute is the name of a grammatical function or feature such as SUBJ and there is also the argument-structure (a-s). Each of these levels model different dimensions of grammatical structure, category, function and role respectively (Mchombo 2000).

The theory also provides for mechanisms of association between the different levels. The levels are associated by principles of functional correspondence (also called linking or mapping principles) (Bresnan 1994) as will be detailed later. Argument structure provides the interface between lexical semantics and syntactic structure

[10] See also Alsina & Mchombo (1992), Alsina & Mchombo (1993) and Harford (1993)

[11] (Bresnan & Kaplan 1982), (Bresnan & Moshi 1990), (Mchombo 1999*b*), (Mchombo 1999*a*) and (Mchombo 2000)

encoding lexical information about the number of arguments and their syntactic types, and their hierarchical organisation necessary for the mapping to syntactic structure. F-structure provides the interface between argument structure and c-structure. The significant aspect of this theory is the interaction of the different informational structures. Crucially, in Bantu languages, the linking of lexical semantics with argument structure and of argument structure with functional roles involves processes with morphological reflexes, which affect argument structure—such processes as applicativisation (Mchombo 1999*a*).

Also LFG provides for mechanisms for linking thematic roles and grammatical functions. This is done through the intermediary mechanisms of a thematic hierarchy (Davis & Koenig 2000) and is referred to as Lexical Mapping Theory (henceforthLMT) which provides for the interaction between different components of the theory.

LMT *and the Thematic Hierarchy*

As pointed out by Davis & Koenig (2000) LMT generally is concerned with two issues; first, linking generalisations only appeal to paired-down semantic information, namely thematic roles and the thematic hierarchy and secondly, linking generalisations require cross-classifying grammatical functions into various classes. LMT effects the mapping from thematic roles to grammatical functions via the following three principles (Bresnan & Kanerva 1989):

The first principle is the ordering of semantic roles within the argument structure of every predicate. The argument structure is based on the assumption that thematic roles are arrayed in a hierarchy. This ordering corresponds to a universal hierarchy of semantic roles, so that the further left a semantic role is, the more prominent (higher) it is as illustrated below:

(3.23) agent⟩benefactive⟩goal/experiencer⟩instrument⟩patient/theme⟩location

Other researchers have proposed variants differing in minor respects. The original use of such hierarchies is to account for the relative obliqueness of syntactic arguments on the basis of their ordering on the thematic hierarchy[12].

[12]It has to be pointed out that the thematic hierarchy, although a very familiar term is debatable as highlighted by works like (Ladusaw & Dowty 1988), (Dowty 1991), (Wechsler 1995) and (Davis & Koenig 2000) but these controversies are beyond the scope of this thesis

The second principle consists of morpholexical operations on a verb, which may add, suppress or bind roles in argument structure. To illustrate this, passivisation is treated as suppressing the highest thematic role of a verb, while applicativisation involves adding a role. The effect of the applicative is to introduce a new internal argument into the argument structure of a verb. It thus allows a role that would be expressed as an oblique, if at all, to be expressed as a direct role (Alsina & Mchombo 1992). Within this theory, the applied verbs are derived by a morpholexical operation on the subcategorisation frame of the base verb, which changes its thematic structure and the derived lexical information, like all lexical information, projected into syntax by universal mapping principles. Bresnan and Moshi (1990:170) formulate the following rule for applied verbs, in which a new thematic role is added as follows:

(3.24) $\emptyset$
$\Downarrow$
$\langle \theta ... \theta_{appl} \rangle$

As can be seen from the rule, an applied verb is formed by introducing new theta roles into a verb's array of theta roles (represented by angled brackets), which contains those roles lexically encoded by the given verb or those introduced by other derivational operations. The new role is thematically restricted as shown by the subscript (θ_{appl}), which abbreviates any of the theta roles introduced by the applicative including beneficiary, recipient, instrumental, reason and so on. The added role, it must be noted, becomes an internal role.

The third principle is the assignment of grammatical functions to semantic roles according to the instrinsic properties or roles as well as their relative position on the universal hierarchy. An underlying assumption here is that grammatical functions are decomposable into two primitive features ±r (estricted) and ±o (bjective). The theory defines the grammatical functions subject (SUBJ), object (OBJ), restricted object (OBJ_θ) and oblique (OBL) through a two way featural decomposition into the features ±r and ±o as depicted below:

Table 3.1: Classifying Grammatical Functions

	-r	-r
-o	SUBJ	OBL
+o	OBJ	OBJ_θ

(Davis & Koenig 2000)

Once grammatical functions are decomposed as above, linking principles can apply to add information to partially underspecified lexical entries and determine their subcategorisation properties. A universal intrinsic classification (IC) of arguments associates certain feature values with the thematic roles of a verb. For instance, agents are assigned the IC -O.

Default classifications are assigned if they do not contradict features assigned by intrinsic or morpholexical classifications. The highest role within a verb's subcategorisation is assigned -r (i.e., SUBJ or OBJ, then the next highest is assigned +o (OBJ or OBJ_θ), and the next highest after that is assigned +r (OBJ_θ or OBL). The mapping needs to be checked to see whether roles are not repeated and to do this well-formedness conditions are applied. These conditions state that each verb has a subject and that each grammatical function (apart from OBL) is associated with one and only one thematic role.

Work within LMT has suggested four generalisations about applicatives in Chichewa that require a reference to the thematic hierarchy. As pointed out by Davis (1996) the most detailed arguments in favour of a linking theory based on a thematic hierarchy are presented by Bresnan & Kanerva (1989), Bresnan & Moshi (1990) and Alsina & Mchombo (1993). In these articles, it is argued that the behaviour of the Chichewa applicative constructions and locative inversion requires reference to the relative position of semantic arguments on the thematic hierarchy.

Only applicative verbs introducing arguments below goal on the thematic hierachy can be either primary or secondary objects, that is behave symmetrically, as shown by the contrast between the beneficiary applicative in (3.25) and the instrument in (3.26). The beneficiary object only has primary object properties and cannot be a secondary object as illustrated in the Chichewa examples below.

(3.25) a. Chitsiru chi-na-gul-ir-a atsikana mphatso
7 fool 7SM-PST-buy-APPL-FV 2 girls 9 gift
'The fool bought a gift for the girls'

b. *Chitsiru chi-na-gul-ir-a mphatso atsikana
7 fool 7SM-PST-buy-APPL-FV 9 gift 2 girls
'The fool bought a gift for the girls'

(3.26) a. Anyani a-ku-phwany-ir-a mwala dengu
2 baboon 2SM-PRE-break-APPL-FV 3 stone 5 basket

b. Anyani a-ku-phwany-ir-a dengu mwala
2 baboon 2SM-PRE-break-APPL-FV 5 basket 3 stone
'The baboons are breaking the basket with a stone'
(Alsina & Mchombo 1993)

Bresnan & Moshi (1990) cross-classify argument positions in terms of whether they are semantically restricted [±r] and whether they are objectlike, [±o]. In the case of beneficiary applicatives, the first object of a double object construction is a restricted object rather than an unrestricted object which typically shows up in transitive constructions. A markedness hierarchy is defined over features such that the restricted object is most highly marked. This correlates with the word order position of benefactives relative to themes (Hendrick 1997).

Whereas the theme, in Chichewa cannot be realised as a subject in (3.27b), because of the presence of a more highly ranked instrument, it can in (3.28b) since location is lower than theme in the hierarchy.

(3.27) a. Mwala u-ku-phwany-ir-idw-a dengu (ndi anyani)
3 stone 3SM-PRE-break-APPL-PASS-FV 5 basket by-2-baboon

b. *Dengu li-ku-phwany-ir-idw-a mwala (ndi anyani)
5 basket 5SM-PRE-break-APPL-PASS-FV 3 stone by-2-baboons
'The stone is being used (by the baboons) to break the basket'
Alsina & Mchombo(1993:23)

(3.28) a. Pa-mchenga pa-ku-luk-ir-idw-a mi-keka
16-3-sand 16SM-PRE-weave-APPL-PASS-FV 4 mats
'The beach is being woven mats on.'

b. Mikeka i-ku-luk-ir-idw-a pa-mchenga
4 mats 4SM-PRE-weave-APPL-PASS-FV 16-3sand
'The mats are being woven on the beach'
Alsina & Mchombo (1993:42)

The syntactic argument corresponding to beneficiary or goal applicatives can only be extracted when it is the highest expressed semantic role, as illustrated by the ungrammaticality of (3.29b) in which the agent argument outranks the beneficiary argument

(3.29) a. Iyi ndi maphatso imene chi-tsiru chi-na-gul-ir-a astikana
9 this be 9 gift 9 REL 7-fool 7SM-PST-buy-APPL-FV 2 girls
'This is the gift that the fool bought for the girls.'

b. *Awa ndi a-tsikana amene chi-tsiru chi-na-gul-ir-a mphatso
these be 2 girls REL 7-fool 7SM-PST-buy-APPL-FV 9 gift
'These are the girls that the fool bought the gift for'

Applicatives must introduce a syntactic argument that corresponds to a semantic role lower than at least one other expressed role of the predicate. This generalisation makes the prediction that unaccusative verbs (those whose highest role is theme or patient) cannot receive a beneficiary applicative argument, since beneficiaries are higher on the thematic hierarchy than either patient or theme. According to Alsina (1992), the thematic hierarchy restricts the types of thematic roles that the applicative can introduce in any predicate structure:

> ...with verbs whose highest thematic role can only be interpreted as a patient, the only possible applied argument is a locative, as it is the only thematic role lower than the patient, which is the case with verbs of involuntary motion like fall. (pg.36)

Similarily, Machobane (1989) working within GB framework, proposes a Thematic Hierarchy Condition stating that the external argument must be higher on the Thematic Hierarchy than the internal argument. As a result, Machobane argues that in Sesotho the applicative cannot introduce a beneficiary in the structure of a verb whose external argument is a theme, since the theme is lower than the beneficiary on the thematic hierarchy. Consequently, Machobane (1989) argues that unaccusative verbs cannot introduce beneficiary AO while unergatives can. This prediction has been questioned especially when one takes into consideration examples like the one below;

(3.30) a. Mvura ya-ka-vir-a
9-water 9SM-PST-boil-FV
'The water boiled.'

b. Mvura ya-ka-vir-ir-a Tanga
9-water 9SM-PST-boil-APPL-FV 1a-name
'The water boiled for Tanga'

This unaccusative/unergative usage is also echoed in Shibatani (1996) when he notes that intransitive-based beneficiaries are barred from most languages[13]. The problem is that formal theories cannot capture the continuum of transitivity amongst languages.

Contribution of LFG towards an understanding of applicative constructions

In their work on object asymmetries in Bantu languages, Bresnan & Moshi (1990) differentiate symmetrical and asymmetrical object languages based on five syntactic diagnostics:passivisation, object marking, reciprocalisation, deletion of unspecified object and cooccurrence of some of the features. In symmetrical object languages, such as Kichaga and Kinyarwanda, either object, direct or applied, can be the subject of the passive, can be marked on the verb, or can receive a reciprocal interpretation. They also allow combinations of these features. Moreover, an unspecified object may be deleted. In asymmetrical object languages such as Kiswahili and Chichewa, on the other hand, only the applied object can be the subject of the passive, can be marked on the verb and so on. Combinations of features within this type of languages is not allowed, nor can an unspecified object be deleted. The differentiation through identification of the five parameters of symmetrical and asymmetrical object languages is an invaluable contribution to the study of applicatives.

The basic insight of Bresnan & Moshi's 1990 theory of object asymmetries is that certain morphosyntactic expressions of arguments require the same abstract feature on the argument, a feature formalised as [-r]. Languages are proposed to vary depending on whether or not they allow more than one argument with the feature [-r]. In an asymmetrical language, only one argument has the abstract feature [-r], whereas the other is classified [+o]. In a symmetrical language, both arguments may be classified as [-r]. This difference is formulated by Bresnan and Moshi (1990) as the ASYMMETRICAL OBJECT PARAMETER (AOP), which is found in asymmetrical languages and prohibits the intrinsic assignment of [-r] to more than one argument. The AOP is formalised in Bresnan & Moshi (1990) as follows:

[13]With intransitive-based applicatives there is a need for a thorough study and Machobane's thesis is a first step. Also more recently work in progress by Letsholo (2001). As can be seen from the literature it is really not clear as to what can be concluded because cross-linguistically it is not easy to pin down whether a language allows intransitive based beneficiaries or not. For more details the reader is referred to Shibatani (1996)

(3.31) Asymmetric object Parameter AOP:
..only one role can be intrinsically classified unrestricted. (Bresnan and Moshi 1990:172)

Which can be schematised as the following:

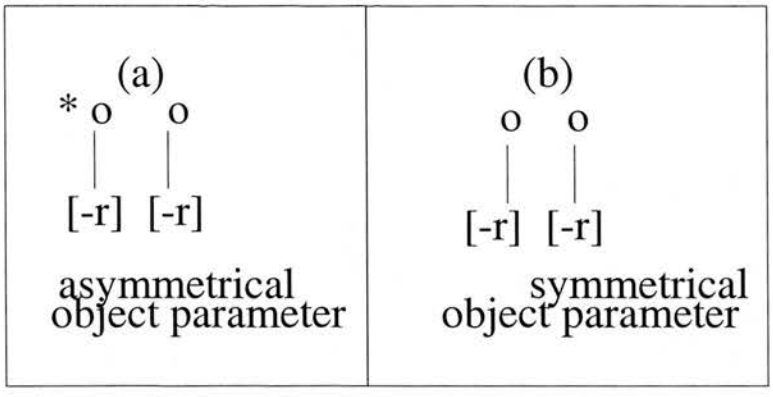


Figure 3.4: Asymmetrical/Symmetrical Object Parameter

The focus should be on figure (3.4a) which is what the AOP states; figure (3.4b) is the alternative from a symmetrical perspective. As can be seen from figure (3. 4a) asymmetrical languages forbid two [-r] whilst figure (3.4b) highlights the fact that within symmetrical languages two [-r]s are permissible. In other words, the AOP suggests that only one argument at a time may be an object while the symmetrical parameter predicts that two of the arguments can simultaneously be object.

This single parameter of variation accounts for many empirical differences between these two types of languages some of which are shown in table (3.2) taken from (Alsina 1994):

Table 3.2: Implications of the Asymmetrical/Symmetrical distinction

	Symmetrical	Asymmetrical
more than one OM in a single verb form	$\surd$	*
Occurrence of OMs in passive verb forms	$\surd$	*
either object can be a passive subject	$\surd$	*

What table (3.2) is showing is the predictions that are made by the AOP, in a symmetrical language, a passive verb form may include an OM as shown by the $\surd$, whereas, in an asymmetrical language it may not as shown by $*$. This is because both the passive subject and the OM must correspond to arguments with the feature [-r]; if the language allows an argument structure to include more than one [-r]

argument (a symmetrical language), such a form is possible, if the language does not (an asymmetrical language), such a form is not possible.

Within asymmetrical languages there are further distinctions and thus we find that languages like Chichewa differ from other asymmetrical languages and symmetrical languages by the requirement that certain internal arguments, specifically those that are beneficiaries or goals must be [-r] and cannot be [+o] (Bresnan & Moshi 1990). This constraint states that only the beneficiaries or goals of a ditransitive construction may be expressed as an OM or as a passive subject or be adjacent to the verb, since this argument is [-r], any co-occurring internal argument has to be [+o] and therefore cannot be expressed as an OM or as a passive verb.

To summarise the above, one can say that Bresnan & Moshi (1990) made an important contribution to the study of applicatives by differentiating Bantu languages into symmetrical and asymmetrical languages and referring to a single parameter of variation AOP for their difference in behaviour. As will be shown in the following section, however, this single parameter is too restrictive and there are exceptional cases.

Shortcomings of the theory

The shortcomings to be analysed here have also been pointed out in Harford (1991): (Kitharaka), Woolford (1993): (Runyambo), Rugemalira (1993): (Runyambo), Sziba (1995): (Ndebele) and Davis & Koenig (2000). Positing a common property underlying various surface manifestations of an argument, namely property [-r] makes very strong predictions, unless additional constraints are imposed. For example, it predicts that if a language is defined as symmetrical it means that both objects can co-occur simultaneously as object markers, or one as a passive subject and the other as the object marker or either one or the other can occur immediately after the verb. In other words, there is always an option as to which object can be either a passive subject or be object marked. However as will be shown below these predictions are not always borne out. Most of what has been said above caters for Chichewa and Kichaga more than any other language since most theorists have concentrated on these two languages.

As shown by Harford (1991) focusing on Kitharaka, and Demuth (1998) focusing on Sesotho, we have languages that cut across the symmetrical/asymmetrical di-

chotomy[14] . Demuth (pg.789) (1998) came up with the following cross-linguistic table:

Table 3.3: Symmetrical vs asymmetrical object "parameter"

Symmetrical	Asymmetrical	"Mixed"
Kinyarwanda	Kiswahili	Chishona
Kihaya	Chimwini	Sesotho
Kimeru	Chichewa-A	
Chichewa-B	Hibena	

As Demuth (1998) shows, Chishona and Sesotho have mixed characteristics.

The difficulties of applying the AOP to a language like Chishona derive from the fact that the parameter has been formulated on the basis of exclusively syntactic considerations. As shown in Chapter 2, double object constructions in Chishona are sensitive to the semantic/discourse factor of animacy[15]. As Chapter 2 describes clearly, when the two objects found in an applicative construction are equal in terms of animacy we find that the order of the two objects is fixed as applied object and logical object. If the two are moved around the interpretation of the sentence changes as shown in example (3.32 and 3.33).

(3.32) a. Baba va-ka-rov-er-a mayi mw-ana
1a-father 2aSM-PST-beat-APPL-FV 1a-mother 1-child
'Father beat the child for mother'

b. Baba va-ka-rov-er-a mw-ana mayi
1a-father 2aSM-PST-beat-APPL-FV 1-child 1a-mother
'Father beat mother for the child'

(3.33) a. Baba va-ka-vez-er-a zvi-garo tafura
1a-father 2aSM-PST-carve-APPL-FV 8-chair 9-table
'Father carved a table for the chairs'

b. Baba va-ka-vez-er-a tafura zvi-garo
1a-father 2aSM-PST-carve-APPL-FV 9-table 8-chair
'Father carved chairs for the table'

[14]Harford in pc refers to such instances as 'half-way' houses since they have both symmetrical and asymmetrical characteristics. This includes a language like Chishona which (Bresnan & Moshi 1990) conclude to be a symmetrical language in which asymmetries occur with subclasses of objects characterised by factors of person or animacy.

[15]Gitonga a Bantu language spoken in Mozambique behaves like Chishona as shown by Mchombo & Firmino (1999)

Contrast this with examples in which animacy is unequal:

(3.34) a. Kundishora a-ka-bik-ir-a Aotida bota
1a-name 1SM-PST-cook-APPL-FV 1a-name 5-porridge
'Kundishora cooked porridge for Anotida

b. Kundishora a-ka-bik-ir-a bota Anotida
1a-name 1SM-PST-cook-APPL-FV 5-porridge 1a-name
'Kundishora cooked porridge for Anotida'

Given these mismatches in terms of the predictions of this theory some researchers have claimed that it does not work and that there are no symmetrical languages since almost all Bantu languages that are considered to be symmetrical do have asymmetrical characteristics (Rugemalira 1993*a*) and (Woolford 1993)[16]. Such conclusions have arisen after taking a language that is a model of a symmetrical language, Kichaga, which however has elements of asymmetry when one takes into consideration a beneficiary applicative construction as demonstrated in sentence (3.35):

(3.35) a. N-a-i-lyi-i-a m-ka k-elya
FOC-1SM-PRE-eat-APPL-FV 1-wife 7-food
'He is eating food for/on his wife.'

b. *N-a-i-lyi-i-a k-elya m-ka
FOC-1SM-PRE-eat-APPL-FV 7-food 1-wife
'He is eating food for/on his wife.'

However, it has to be pointed out that the restriction only seems to do with word order, for either of the two objects can undergo passivisation or object marking Bresnan & Moshi (1990). As shown by Bresnan & Moshi (1990), when animacy is equal for Kichaga, as in sentence like, *Msawi na-i-lyi-a m-ka mana* meaning "The witch is eating the child for the woman", the beneficiary must be adjacent to the verb; reversing the order of *m-ka* "woman" and *mana* "child"simply changes the interpretation so that the "child" becomes the beneficiary of the witch eating the woman. The same is true when the two internal arguments are inanimates: order has to be fixed. Given these examples it is clear as to why one might argue symmetrical languages are debatable.

[16]Such sentiments were also echoed by Benji Wald in a personal communication when he said that Chishona is a very important language in demonstrating that Bantu languages are not just a matter of 'asymmetry' vs 'symmetry' languages. Perfect symmetry is probably debatable for any Bantu language and asymmetry takes various forms, not just one.

Chishona is not the only language that is problematic for the asymmetrical and symmetrical divide; Runyambo is also such a language. Runyambo, according to Rugemalira (1993), is symmetrical in nature and hence should allow both the applied object and the direct object to be passivised. However, example (3.36d) shows this is not true. The beneficiary is the only object that can be passivised.

(3.36) a. Omuseija a-ka-reet-er-a omwana ebiraatwa
man he-PST-bring-APPL-FV child shoes
'A man brought shoes for the child.'

b. Omuseija a-ka-bi-mu-reet-er-a
man he-PST-them-her-bringAPPL-FV
'The man brought them for her.'

c. Omwaana (ebiraatwa) a-ka-bi-reet-er-w-a omuseija
child shoes she-PST-them-bring-APPL-PASS-FV man
'The child was brought them(shoes) by a man.'

d. *Ebiraatwa (omwaana) bi-ka-mu-reet-er-w-a omuseija
shoes child they-PST-her-bringAPPL-PASS-FV man
'Shoes were brought for her(child) by a man.'

(Alsina 1994)

Since Runyambo is said to be symmetrical, the prediction is that all the objects should be able to passivise. Runyambo has restrictions when an inanimate is passivised.

Furthermore, Kitharaka also cuts across the asymmetrical/symmetrical dichotomy as shown by Harford (1991). Kitharaka exhibits the symmetrical properties of permitting either object in an applicative construction to passivise and of permitting either object to control an object marker. In spite of all these symmetrical properties Harford (1991) argued that Kitharaka is an asymmetrical language. She gives evidence that in Kitharaka, passivisation cannot cooccur with object marking, nor does this language permit two object markers on a single verb form. In order to get round this problem and conclude that Kitharaka is asymmetrical Harford (1991) postulates that a real characteristic of a symmetrical language should be the co-occurrence of different properties, like two object markers, or a passive and an object marker, that is the co-occurrence of [-r], simultaneously. Thus given this,

Chishona is still problematic. It is true that the morphology of the Chishona verb does not permit the co-occurrence of two object markers[17]:

(3.37) a. VaMutema va-ka-rim-ir-a mu-kadzi mi-nda
1a-name 2SM-PST-plough-APPL-FV 1-woman 4-field
'Mr Mutema ploughed the fields for the woman.'

b. *VaMutema va-ka-mi-mu-rim-ir-a
1a-name 2SM-4OM-1OM-PST-plough-APPL-FV
'Mr Mutema ploughed them for her.'

But it is possible to have a passivised object marked verb,

(3.38) Mu-kadzi a-ka-mi-rim-ir-w-a na-vaMutema
1-woman 1SM-PST-4OM-plough-APPL-PASS-FV by-1a-name
'The woman had them ploughed for her by Mr Mutema'

Hence, Chishona must be classified as both symmetrical and asymmetrical. When one takes a specific language into consideration, the AOP or its alternative, the symmetrical parameter do not make the right predictions. Given this, we end up coming up with a lot of exceptional rules which makes the grammar cumbersome and redundant. This means that we need a theory that will not have all these exceptional rendundancies.

Unlike Rugemalira and Woolford I will propose the following continuum based on the number of objecthood properties a language expresses. The left to right ordering of the continuum is dictated by asymmetrical sensitivity as suggested by the AOP. That is one argument has the feature [-r]. The extreme left looks at single object properties like, adjacency, passivisation and object marking. Thus because of its sensitivity to the fact that one internal argument has to have the feature [-r], I have placed Chichewa, Kiswahili and Chimwini (which seem to be languages that are purely asymmetrical) on the very left of the continuum. The single AOP parameter is essential to describe these languages. However, as we move along the cline, there is an interacting of factors. The rest of the languages on the cline cannot be defined by the single parameter. As we go along the continuum we come to mid way and here there is a split in characteristics. Kitharaka right through to Kichaga

[17]Sindebele, a language spoken in the southern part of Zimbabwe as well as in South Africa as shown by Siziba (1995) also behaves like Chishona. Gitonga and Chichewa are also languages that do not pernit double object marking, cf Bresnan & Moshi (1990). Multiple object marking languages include Kinyarwanda; Kimenyi (1980, 1995), Runyambo; Rugemalira (1990) and Kichaga; Bresnan & Moshi (1990)

show regular symmetry of the two objects and therefore cluster from the middle to the very extreme right hand-side of the continuum. However, this continuum shows that perfect symmetry is not attainable. Kitharaka and the others are at the beginning of the symmetry language because when one takes into consideration (Harford 1991)'s new definition, then we should really see them as asymmetrical languages.

Kitharaka, as shown by Harford, does not permit simultaneous occurrence of primary objects like co-occurrence of object markers, nor does it allow a passive and object marker to occur at the same time. However, based on single properties it behaves like a symmetrical language. Sesotho is placed towards the asymmetrical cline, since animacy is the only factor that includes it as a symmetrical language. Also it does not allow the co-occurrence of [-r]. Chishona has been concluded, like Gitonga, to have these asymmetrical characteristics because of animacy. Also Chishona in the new definition is also excluded from being symmetrical because it does not allow two OM to cooccur on its verb, though it does allow a passive verb to have an OM. That is why it is placed where it is. Runyambo follows because it has one property that gives it an assymetrical characteristic in that it does not have an alternating passive, the AO is the only one that can act as the passive subject but it allows cooccurrence of [-r] thus its position. Then we have Kichaga and Kinyarwanda as the model of symmetrical. Only one property gives them an asymmetrical blend and that property is only found with beneficiary constructions. Thus Kitharaka, Sesotho, Chishona and Runyambo to a certain extent lie to the left of Kichaga and Kinyarwanda since their symmetry facts are less pervasive than those of Kichaga for example. I do not have a language which is strictly symmetrical. The continuum is given below:

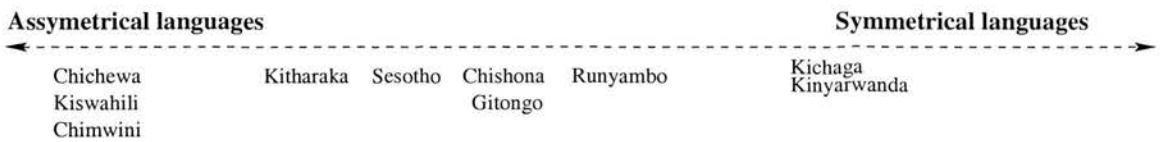


Figure 3.5: Asymmetry/Symmetrical continuum

Chishona, Gitongo, Sesotho and so on, appear to provide *prima facie* evidence against the AOP when animacy is introduced into the construction. Specifically, while the languages are considered asymmetrical when the object NPs have the same degree of animacy, it seems to behave like a symmetrical language when the NPs have different degrees of animacy. This undermines the AOP. The fact that I

have concluded that the AOP should be seen as a continuum implies that the AOP is not a parameter in any real sense but the result of the interplay of different factors.

In summary of the above, we see that the syntactic analysis of the applicative, be it from a transformationalist point of view or from a lexical functional grammar perspective, share a common idea, and that idea is that the applicative construction involves the introduction of an additional argument, either by a null preposition or by a morpholexical operation. In addition, the new argument involved is internal, that is to say it has direct object properties and these two approaches are in agreement in showing that the applied verb differs from the corresponding base verb in that they have an additional object. Furthermore, there is an assumption within both theories that the two objects are asymmetrical in nature.

Because the applicative suffix is treated as a morpheme that encodes a transitivising function it is difficult to extend this analysis to applied verbs where there is no apparent increase in valency. There are quite a number of applied verbs in Chishona which appear not to involve an increase in valence or a benefactive object. Though it might be argued that such instances are idiomatic or lexicalised the process is productive and there is therefore a need to modify the basic analysis to provide a general account of the applicative construction. In addition, there are instances in which the applicative is associated with a completely idiosyncratic semantic contrast.

3.3.3 Applied verbs without valency alternation

Within most Bantu languages we find examples which show applied verbs which encode a difference in meaning of the base verb and the derived verb without any change in the valency. There is no additional object as illustrated below:

(3.39) a. Mhunga a-no-muk-a
1a-name 1SM-PRE-wake up-FV
'Mhunga(a bus) leaves early in the morning'

b. Mhunga a-no-muk-ir-a
1a-name 1SM-PRE-wake up-APPL-FV
'Mhunga(a bus) leaves early, early in the morning'

(3.40) a. Mu-sikana a-ka-tiz-a
1-girl 1SM-PST-ran away-FV
'The girl ran away'

b. Mu-sikana a-ka-tiz-ir-a

1-girl 1SM-PST-ran away-APPL-FV

'The girl eloped'

What can be said about these examples is that the hearer/speaker knows that there is a difference in terms of the meaning encoded in the underived verb and that found in the applicative verb. The difference in meaning is that in (3.39a) the basic waking up is different from the waking up early, very early in (3.39b). The same is true in (3.40b) in which eloping is different from running away (3.40a). Running away has no sense of direction for one can run away and come back, or run to anyway really but with elope, it means that the girl is found within a specific location.

Although it can be argued that these examples are idiomatic or phrasal verbs because they are applicative verbs without the typical function of adding an extra argument warrants them to be analysed. Within Relevance Theory, such instances have been referred to by Marten (2000) as 'concept strengthening'. This will be further discussed in Chapter 4 (Section 4.7.).

3.4 Conclusion

This chapter has outlined the theoretical context and orientation of the applicative construction carried out by different researchers so far. The contribution can be said to be morphological, semantic and syntactic in nature depending on the particular linguistic era. Thus we find that at the beginning of the twentieth century, the aims of the contributors was to get the morphological and semantic complexities right. Whilst in the last half of the century the aim has been to provide a syntactic account, and account for the different properties associated with this construction through a formalist framework.

Despite there being significant advances in the understanding of syntactic properties associated with objects found with applicative constructions, the literature so far has overemphasised mainly syntactic properties at the expense of other properties. Moreover, focus has been on the benefactive applicative and instrumental construction as shown by traditional grammarians' description, transformational approach and lexical functional grammar.

In fact, as shown by Ngonyani (1996, 1998), Ashton (1947), Kimenyi (1980, 1995), Bresnan & Moshi (1990) and Harford (1993), the applied verb licenses a wide range of objects in terms of semantic roles and syntactic properties. Such roles as goal,

recipient, motive, source to just mention a few are licensed by the applicative verb. Ngonyani (1996) gives a detailed study of the syntactic properties of the applicatives. He gives more syntactic properties including reflexivisation, reciprocalisation and so on and from this work he concludes that in Kiswahili there are three types of applicative, (i) the benefactive type, which encompasses goal and maleficiary (ii) the instrumental type which include motive and ingredient and (iii) the locative type. It has to be said that such a typology is based on the syntactic properties of the objects.

As can be seen from the above, almost all previous analyses are primarily concerned with the syntactic properties such as word order, object marking and passivisation of the beneficiary applicative construction. From this review it can be seen that the semantic/pragmatic function of the applicative has not been accorded any serious attention. There are also instances were we have prepositional alternatives, and the relationship of these alternatives and the applied verb has not been fully analysed. Since the applicative is prototypically analysed as a transitivising construction, one wonders how this analysis will be extended to accomodate cases were the suffix has not such a function. Recent work by (Rapold 1997), (Bentley 1998), (Matsinhe 1999) and (Marten 2000) have tried to redress this inbalance and incorporate the semantic/pragmatic function of the applicative. This is what I intend to do in this thesis and as will be shown, I will go further to say that there is one particular semantic/pragmatic function that is manifested by the construction. In this thesis I intend to focus on Chishona data since as shown above languages tend to have different constraints. I will look at the applicative construction in terms of language-specific properties rather than cross-linguistic parameters.

Moreover, the very existence of goal applicative examples is problematic for any valency increasing theory. That there is no increase in valency is a serious problem for Baker and Marantz. The reason is traced to the theta roles and Baker's Uniformity of Theta Assignment Hypothesis (UTAH) which identifies specific phrase structural configurations with individual theta roles. The fact that the applicative morpheme assigns a theta role means that the applied object is double marked and hence ill-formed by the prediction of the theory.

In the following chapter, focus is on the different meanings that the applicative suffix conveys with different verbs. The data to be analysed in the next chapter will support and illustrate the various hypothesises made in various parts of this thesis.

Chapter 4

The polysemous nature of the Applicative suffix

4.1 Introduction

In the preceding chapters, I have described and shown how applicative verbs in Bantu languages have been principally analysed as performing one function: licensing a new object NP within the subcategorisation frame of their base verb, resulting in an increase in valency and the concomitant introduction of an additional argument, often interpreted as a benefactive, in a clause headed by the applicative verb. These two chapters have offered an account of what are termed prototypical applicatives and how they are analysed from a purely syntactic perspective. However, such an account does not give a full analysis of the function of the applicative suffix. Syntactic analyses have left out the semantic/pragmatic function of the applicative suffix. In this chapter, I analyse the different interpretations that the applicative suffix conveys with the goal of bringing out the semantic/pragmatic function of the applicative suffix.

There are in ChiShona a number of other productive patterns with the applicative morpheme where the applicative object has other interpretations beside the beneficiary. In addition, there are instances in which the applicative is associated with a completely idiosyncratic semantic contrast. Moreover, we have cases which have been analysed as 'lexicalised' and these are instances in which the applicative morpheme does not encode an increase in the valency of the verb. Though these examples are said to be unproductive, they are important in that they encode a particular semantic-pragmatic function of the applicative morpheme. I propose a semantic-pragmatic account that places the benefactive within a larger framework

that embraces other applicative constructions such as maleficiary, motive, goal, locative and source. In the course of this investigation it becomes apparent that the valence-increasing changing accounts tend to miss important generalisations. Indeed, the facts point to an integrational account proposed here that unites different applicative constructions in terms of the semantic contribution they make[1].

From a review of literature on Bantu, it is often observed that the derivatives involving applicative constructions are extremely heterogeneous in terms of their semantics and syntax as highlighted in Chapter 3. Thus, verbs suffixed by the applicative morpheme may be transitive, ditransitive or tritransitive [2] and the derived constructions may have a range of different meanings often paraphrased as 'X did something on behalf of, for, to the disadvantage of Y, because of Y, at Y, in Y, nearby Y, from Y....'[3] Although this particular suffix is generally regarded as the most productive overt complex verb forming suffix in most Bantu languages, there have not been many detailed studies of the semantic heterogeneity of the suffix to date (see Port (1981) and Marten (1999, 2000)). As for those studies that do exist, they tend to concentrate on the differences rather than the similarities between the various interpretations as shown in Chapter 3.

In this chapter, I develop an analysis of applicative verbs in Chishona which shows that all the different meanings (interpretations) associated with the applicative suffix are derived from a single semantic basic meaning: an underspecified (polysemous) generalised goal relation. This single meaning gives rise to the range of different observed meanings associated with the applicative in context. We thus treat the applicative morpheme as being polysemous (involving systematic relatedness of multiple meaning) rather than homonymous (distinctness in meaning), in contrast to what has been mainly the focus in the literature. It is shown that the goal relation associated with the different applicative interpretations is not arbitrary but motivated[4].

[1]This chapter highlights how we should integrate the semantic/pragmatic function of the applicative suffix since it has basically been neglected in the literature as shown in the previous chapter except for recent work which have tried to include this function (see Marten (1999,2000), Bentley (1998) and Port (1981) with respect to Kiswahili)

[2]cf Kimenyi (1980, 1995), Baker (1988, 1992), Alsina & Mchombo (1992)Bresnan & Moshi (1990)Machobane (1989)Ngonyani (1996, 1998)and chapter2 of this thesis

[3]See Doke (1954), Fortune (1955, 1967), Fivaz & Ratzlaff (1975), Dembetembe (1987), Pelling & Mujombi (1993).

[4]This chapter contains material that appeared in several talks and a paper to appear Mabugu (1999), Mabugu & Cann (2001) and Mabugu (2001).

4.2 Underspecification of meaning

This chapter assumes that the applicative verb is semantically underspecified (to a certain extent), and this underspecification is resolved incrementally when hearers build the interpretation they give to the verbs in context. Assuming that verbs are semantically underspecified entails that the noun phrases that might be added are restricted by semantic/pragmatic constraints: in particular the possibility of construing the appropriate meaning of the utterance from the lexical information provided by the predicate, the properties associated with the noun phrases and the context in which the utterance occurs. Relations that are said to be denoted by the applicative suffix may have a variety of interpretations as illustrated below:

(4.1) a. Baba va-ka-uray-ir-a v-ana nyoka
1a father 2aSM-PST-kill-APPL-FV 2-child 9 snake
'Father killed a snake for the children'

Beneficiary

b. Ma-puruvheya a-ka-ndi-uray-ir-a mw-ana w-angu
6 soldier 6SM-PST-1SG-kill-APPL-FV 1-child POSS
'The soldiers killed my child on me'

Maleficiary

c. Ma-*war veterans* a-ka-uray-ir-a ma-purazi a-ke mu-rimi
6-war veterans 6SM-PST-kill-APPL-FV 6-farm POSS 1-farmer
'War veterans killed a farmer for his farms'

Motive

d. Baba va-ka-uray-ir-a pa-ru-ware nyoka
1a father 2aSM-PST-kill-APPL-FV 16-11-flat granite 9 snake
'Father killed a snake on the rock'

Locative

What the above data shows is that the interpretation we give to a particular word form can vary greatly from context to context. It is clear that actual interpretation between the applied object and the predicate is determined by the semantic properties of both the applied object and the predicate and pragmatics of the whole clause. The relation expressed by -ir- thus varies from context to context. In section (4.3) I show how these various meanings are related and how it is the semantics of the verb and the properties of the applicative object which determines which actual interpretation is specified in that particular context.

4.3 The 'Basic' Meanings

4.3.1 Beneficiary

(4.2) a. Mayi va-ka-bik-a sadza
1a mother 2aSM-PST-cook-FV 5 sadza
'Mother cooked sadza'

b. Mayi va-ka-bik-ir-a mw-ana sadza
1a mother 2aSM-PST-cook-APPL-FV 1-child 5 sadza
'Mother cooked sadza for the child'

(4.3) a. Mbuya va-ka-ruk-a juzu
1a grandmother 2aSM-PST-knit-FV 5 jersey
'Grandmother knitted a jersey'

b. Mbuya va-ka-ruk-ir-a mu-zukuru juzu
1a grandmother 2aSM-PST-knit-APPL-FV 1-grandchild 5 sweater
'Grandmother knitted a sweater for the grandchild'

(4.4) a. Mw-ana a-ka-vak-a i-mba
1-child 1SM-PST-build-FV 9-house
'A child built a house'

b. Mw-ana a-ka-vak-ir-a va-bereki i-mba
1-child 1SM-PST-build-APPL-FV 2-parent 9-house
'A child built a house for the parents'

(4.5) a. Dare ra-ka-uray-a mbudzi
5 council 5SM-PST-kill-FV 9 goat
'The council killed a goat '

b. Dare ra-ka-uray-ir-a mu-kuwasha mbudzi
5 council 5SM-PST-kill-APPL-FV 1-son in-law 9 goat
'The council killed a goat for the son in-law '

(4.6) a. Vimbayi a-ka-imb-a ru-mbo
1a name 1SM-PST-sing-FV 11-song
'Vimbayi sang a song '

b. Vimbayi a-ka-imb-ir-a Anotida rumbo
1a name 1SM-PSTsingAPPL FV 1a name 11-song
'Vimbayi sang a song for Anotida'

(4.7) a. Pio a-ka-nyor-a rondedzero
1a name 1SM-PST-write-FV 9 essay
'Pio wrote an essay'

b. Pio a-ka-nyor-er-a Muchaneta rondedzero
1a name 1SM-PST-write-APPL-FV 1a name 9 essay
'Pio wrote an essay for Muchaneta'

As can be seen from examples in (4.2a-4.7a), the verbs are used with one object in their transitive usage but appear with two objects in their applied form in (4.2b-4.7b). These are illustrations of the prototypical usage of the applicative suffix, namely, the introduction of an additional beneficiary object as described in Chapter 2 of this thesis[5]. The nature of the beneficiary relation is, however, dependent on interpretation in context. The actual interpretation of the beneficiary reading is deduced inferentially.

In general, the examples provided above can be interpreted in one of two ways: as involving the creation or construction of some object which itself will be to the benefit of the AO, a reading based on the interpretation of the direct object found in the construction, which will be referred to as the object relation; or, more generally, as involving the execution of some event which is to the benefit of the AO, an event relation, a reading inferred from the event being depicted.

For example, in sentence (4.2b) the object relation highlights the fact that the created direct object itself benefits the child. The *sadza* is created to benefit the child in one way or another. This is done by permitting both a beneficiary and recipient reading, in that the object, *sadza* in this case ends up being received by the child, and thus benefits it. In this reading, there is the implication that *sadza* is meant for the child, for example, if it is for its lunch.

Another possible reading for this sentence is that it is the actual event of making *sadza* that is to the child's benefit, the event relation, the context specifies that there is some relation between the child and the event brought about by the applicative suffix, and that relation is a beneficiary reading. Note that this reading does not entail that the *sadza* ends up with the child, just that the event of mother cooking *sadza* benefits the child in some way. For example, if the child were asked to prepare *sadza* as a school project, then it is to its benefit that someone did the event for it. Because the child could not do it, mother did the cooking on its behalf. This

[5]Doke (1973,1954), Port (1981), Kunene (1987) , De Guzman (1987), Machobane (1989), Shibatani (1991) Trithart (1993)and Demuth (1998)

relation can be shown by instances of 'object deletion' as in *Mayi vakabikira mwana*, 'Mother cooked for the child' which just shows the event that was done on behalf of the child, which is most likely to benefit the child without the mention of the prepared product.

Both an event and an object related interpretation is also available for sentences (4.3b-4.5b). Example (4.6b) is also potentially ambiguous: in that the song itself may be for Anotida's benefit, as a lullaby, so as to make him sleep or it is the whole activity of Vimbayi singing that is for his benefit, in case Anotida had to perform at a concert but was ill and instead Vimbayi performed for him. However, in this case the activity and the object are not really distinct and the ambiguity will in general not be perceived, i.e. because the song and the activity of singing are essentially indistinguishable in this context.

The ambiguity is however, more marked in case (4.7b). For example, in one context Muchaneta is the recipient of the essay, written by Pio. In another context in which Muchaneta were a pupil, and was ill, we can have the interpretation in which 'Pio wrote an essay on behalf of Muchaneta'. (4.7b) can thus be disambiguated by extending the linguistic context as shown in (4.8) where it is clear that the latter interpretation is intended.

(4.8) Pio a-ka-nyor-er-a Muchaneta rondedzero a-ka-i-p-a
1a name 1aSM-PST-write-APPL-FV 1a name 9 essay 1SM-PST-9OM-give-FV
mu-dzidzisi
1-teacher
'Pio wrote an essay for Muchaneta and she gave it to the teacher'

The above data illustrate that the applicative suffix with a beneficiary reading can, from context, have two readings associated with the beneficiary interpretation. That is, V-r- either denotes a relation between the AO and the event denoted by the verb or between the AO and the logical object of the verb.

In certain examples, with beneficiary interpretations, there may only be one reading available. For example, (4.9) below can be interpreted only as indicating that the *sadza* is for the street children and that the entire event benefits the queen, that is a relation between the applied object and the event denoted by the verb.

(4.9) Mayi va-ka-p-ir-a mambokadzi sadza ma-*street kids*
1a mother 2aSM-PST-give-APPL-FV 1a queen 5 sadza 6 street kids
'Mother gave sadza to street children for the queen'

The following examples also illustrate this point, where again only the 'event' reading is available:

(4.10) a. Kundishora a-ka-mhany-a ku-ma-girosa
1a name 1SM-PST-run-FV 17-6-shop
'Kundishora ran to the shops'

b. Kundishora a-ka-mhany-ir-a Vimbayi ku-ma-girosa
1a name 1SM-PST-run-APPL-FV 1a name 17-6-shop
'Kundishora ran to the shops for Vimbayi'

(4.11) a. Mbuya va-ka-dzim-a moto
1a grandmother 2aSM-PST-extinguish-FV 10 fire
'Grandmother extinguished the fire'

b. Mbuya va-ka-dzim-ir-a mu-zukuru moto
1a grandmother 2aSM-PST-extinguish-APPL-FV 1-grandchild 10 fire
'Grandmother extinguished the fire for the grandchild'

(4.12) a. Va-Mutema va-ka-gadzir-a denga
1a name 2aSM-PST-fix-FV 5 roof
'Mr Mutema fixed the roof'

b. Va-Mutema va-ka-gadzir-ir-a mai denga
1a name 2aSM-PST-fix-APPL-FV 1a mother 5 roof
'Mr Mutema fixed the roof for mother'

(4.13) a. Emmanuel a-ka-tinh-a mombe
1a name 1SM-PST-drive-FV 10 cow
'Emmanuel drove cattle'

b. Emmanuel a-ka-tinh-ir-a Juliet mombe
1a name 1SM-PST-drive-APPL-FV 1a name 10 cow
'Emmanuel drove cattle for Juliet'

(4.14) a. Kundishora a-ka-uray-a dandemutande
1a name 1SM-PST-kill-FV 9 spider
'Kundishora killed a spider '

b. Kundishora a-ka-uray-ir-a mai dandemutande
1a name 1SM-PST-kill-APPL-FV 1a mother 9 spider
'Kundishora killed a spider for mother '

In example (4.10b) we find that the whole activity of 'Kundishora running to the shops' was done for the benefit of Vimbayi. The shops themselves cannot be interpreted as benefiting Vimbayi, but only the activity of going to the shops. The same applies to (4.11b) in that the 'grandmother extinguishing fire event' benefits the grandchild rather than the fire on its own and the fixing of the roof by Mr Mutema is for the benefit of the mother rather than the roof itself (4.12b). This is also true for the data in (4.13b) and 4.14b), in that the driving of the cattle by Emmanuel benefits Juliet and the killing of the spider benefits mother respectively. The whole event denoted in the sentence is what is related to the AO defining the beneficiary relationship. These examples unlike examples (4.2-4.7) only have an event relation reading available.

It should be clear at this juncture, that while there are two readings available for beneficiary applicative constructions, one relating the event denoted by the verb-stem to the AO and one relating a logical object to the AO, which reading or readings are accessible depends on the pragmatic properties of the situation depicted by the sentence and extra-linguistic contextual factors, such as the properties associated with the AO, of being animate, and the fact that this animate AO is contextually interpreted as a beneficiary.

4.3.2 Maleficiary

A Maleficiary relation is when the relation marked is to the disbenefit/detriment of the recipient involved in the event being described. This is the negative counterpart of the beneficiary (Shibatani 1996). For example, the verb 'give' typically portrays a beneficiary situation-in which a recipient benefits from the situation of giving but we can have an unfavourable situation expressed by the same verb as in *Tanga gave me a slap*, which is a reading that is adversive to the recipient. The recipient is somehow negatively implicated in the event described. Applicative objects in ChiShona can be interpreted as maleficiaries as illustrated below:

(4.15) a. Ma-tombo a-ka-donh-a
6 5 stone 6SM-PST-fall-FV
'Stones fell'

b. Ma-tombo a-ka-donh-er-a mu-soro w-ake
6 5 stone 6SM-PST-fall-APPL-FV 3-head POSS
'Stones fell on his head'

(4.16) a. Mu-dhebhe w-angu wa-ka-donh-a

3-trousers POSS 3SM-PST-fall-APPL-FV
'My trousers slipped (off)'

b. Mu-dhebhe w-angu wa-ka-ndi-donh-er-a

3-trousers POSS 3SM-PST-1SG-fall-APPL-FV
'My trousers slipped (off) on me'

(4.17) a. Mu-kadzi w-angu a-ka-nyep-a

1-wife POSS 1SM-PST-lie-FV
'My wife lied.'

b. Mu-kadzi w-angu a-ka-ndi-nyep-er-a

1 wife POSS 1SM-PST-1SG-lie-APPL-FV
'My wife lied on me.'

(4.18) a. Va-ka-sek-a mu-kadzi w-ake

3PL-PST-laugh at-FV 1-wife POSS
'They laughed at his wife '

b. Va-ka-mu-sek-er-a mu-kadzi w-ake

3PL-PST-1OM-laugh at-APPL-FV 1-wife POSS
'They laughed at his wife on him'

(4.19) a. *ZESA* ya-ka-dzim-a ma-getsi

9-company 9PST-cut-FV 6-5-electricity
'The Zimbabwe Electricity Supplier Authority switched off electricity'

b. *ZESA* ya-ka-dzim-ir-a va-gari ve-mu-Mbare ma-getsi

9-company 2SM-PST-cut-APPL-FV 2-resident of-18-place 6-5-electricity

'The Zimbabwe Electricity Supplier Authority switched off electricity for the Mbare residences'

(4.20) a. *BAT* ya-ka-kwidz-a mu-tengo we-fodya

9-company 9 SM-PST-raise-FV 3-price of-10-cigarette
'British American Tobacco Company increased the price of cigarettes'

b. *BAT* ya-ka-kwidz-ir-a va-svuti mu-tengo we-fodya

9-company 9 SM-PST-raise-APPL-FV 2-smoker 3-price of-10-cigarette

'British American Tobacco Company increased the price of cigarettes for smokers'

The AO introduced in these examples conveys a sense of adversity or inconvenience befalling the referents in the construction. Within the above data, the individual(s) denoted by the pronoun or noun are in some sense a victim of the inconvenient event denoted by the verb, a malefactive happening (Humphreys 1999; Shibatani 1994). In example (4.15b) stones falling on someone's head affects them adversely, either by crushing their head completely or for the discomfort associated with stones falling on one's head. In (4.16b) the event of trousers-falling affects 'me' adversely, just as in (4.17b), the event of the wife lying also affects the husband in a negative way. In example (4.18b) the whole event of 'them laughing at wife' is to the detriment of 'him'. The switching off of the electricity for the Mbare residences negatively affects the residences especially in circumstances when they had not been given a warning (4.19b), and the increase in cigarette prices affects smokers negatively in that they become expensive to buy. In all these cases, we have a predicate that denotes an event that is negatively characterised and the AO is construed as being the entity that is negatively affected, i.e.as a maleficiary.[6] This shows that it is in the nature of the event denoted by the predicate, and possibly extra-linguistic information (such as cultural norms concerning e.g. the embarrassment or otherwise involved in a loss of trousers), that determines whether the AO is interpreted as being positively or negatively affected by the event.

The adversity meaning discussed here should be distinguished from the adversity meaning expressed lexically. That is verbs like, steal, deprive, take and so on, are verbs which themselves convey a negative meaning. But the adversity meaning relevant in the discussion above is something conveyed by the expression as a whole whose sense is closer to that of inconvenience or misfortune.

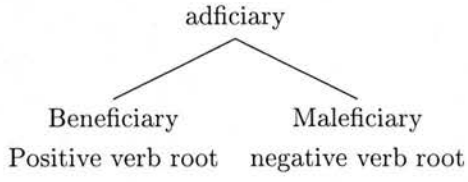
To a great extent what is happening here is determined by pragmatics. Data (4.15-4.20) yields a malefactive reading because the recipient is affected negatively for some reason. Note, however, that this could vary depending on context: For instance, if example (4.19b) is to be assessed in a situation where the electricity was switched off because all the residents in that particular location had not paid their bills, this will be to the advantage of the suppliers of the electricity, in that they will inevitably make people pay for their arrears. Similarly, in example (4.20b) if the context is interpreted in terms of increasing the price of cigarettes inevitably leading to the reduction of people smoking and therefore help in terms with the

[6]These maleficiaries can be likened to what are termed in Indo-European languages (like German and Greek) as 'ethical' datives, where the referent of the dative term is marked as somehow being ethically implicated in the event (Cann (2001)). It is also a widespread trait observed in Slavic languages (see (Wierzbicka (1988)) as well as in modern Hebrew (Berman (1982)).

different side effects associated with smoking, then it is an advantage for the smokers. In addition, example (4.17b) an be interpreted as 'My wife lied on my behalf', in which case it is to the benefit of the husband. This shows that context has a central role to play as to whether the predicate should be interpreted as beneficiary or maleficiary.

Considerations such as these lead to the hypothesis that underlying the beneficiary/maleficiary relations is a single relation whose polarity is determined by the polarity of the verb itself. In other words, we may treat beneficiary and maleficiary applicatives as being facets of the same thing. We will refer to the role that includes maleficiary and beneficiary as ADFICIARY, based on the Latin verb meaning 'to affect'. This 'macrorole' has two instantiations, differentiated by whether the predicate is positive or whether it is negative as illustrated in structure (4.21):

(4.21)



To summarise, the figure above shows that the interpretation as to whether we have a beneficiary or a maleficiary reading depends on the semantics of the verb as well as inferences from the context. Otherwise the two roles are a single role.

4.3.3 Motive

The third most common interpretation of the applied object in ChiShona is that of MOTIVE. In the literature motive has two instantiations: reason and purpose (Frawley 1992).

(4.22) a. Thomas Mapfumo a-no-imb-a bedzi
1a-name 1SM-PRE-sing-FV only
'Thomas Mapfumo only sings '

b. Thomas Mapfumo a-no-imb-ir-a mari bedzi
1a-name 1SM-PRE-sing-APPL-FV 9 money only
'Thomas Mapfumo only sings for money'

(4.23) a. Va-nhu va-no-vereng-a
2-person 2SM-PRES-read-FV
'People read'

b. Va-nhu va-no-vereng-er-a ruzivo
2-person 2SM-PRES-read-APPL-FV 11 knowledge
'People read for knowledge'
'People read in order to eventually gain knowledge'

(4.24) a. *Ma-poachers* a-no-vhim-a chi-pembere
6 poacher 6SM-PST-hunt-FV 7-rhinoceros
'Poachers hunt rhinoceros '

b. *Ma-poachers* a-no-vhim-ir-a mari chi-pembere
6 poacher 6SM-PST-hunt-APPL-FV 9 money 7-rhinoceros
'Poachers hunt the rhinoceros for money'
'Poachers hunt the rhinoceros in order to eventually gain money'

(4.25) a. Ma-kororo a-ka-uray-a mu-svetaupfumi
6-robber 6SM-PST-kill-FV 1-one who sucks wealth
'Robbers killed the capitalist '

b. Ma-kororo a-ka-uray-ir-a u-pfumi mu-svetaupfumi
6-robber 6SM-PST-kill-APPL-FV 14-wealth 1-one who sucks wealth
'Robbers killed the capitalist for his wealth'
'Robbers killed the capitalist in order to eventually get his wealth'

Purpose

(4.26) a. A-ka-pfek-a sutu
3SG-PST-wear-FV 9 suit
'He wore a suit'

b. A-ka-pfek-er-a mu-sangano sutu
3SG-PST-wear-APPL-FV 3-meeting 9 suit
'He wore a suit because of the meeting'

(4.27) a. A-ka-uy-a
3SG-PST-come-FV
'S/he came.'

b. A-ka-uy-ir-a u-rwere
3SG-PST-come-APPL-FV 11-ill
'S/he came because of the illness'

(4.28) a. Madzi-baba va-ka-end-a ku-n'anga
6-1a-father 2aSM-PST-go-FV 17-9-diviner
'A church elder visited a diviner'

b. Madzi-baba va-ka-end-er-a mi-nyama kun'anga
6-1a-father 2aSM-PST-go-APPL-FV 4-ill-fortune 17-9-diviner
'A church elder visited a diviner because of ill-fortunes'

(4.29) a. Va-rwi ve-ru-sununguko va-ka-rw-a
2-fighter 2GEN-11-freedom 2SM-PST-fight-FV
'The freedom fighters fought'

b. Va-rwi ve-rusununguko va-ka-rw-ir-a i-vhu
2-fighter 2GEN-11-freedom 2SM-PST-fight-APP-FV 5-soil
'The freedom fighters fought because of (lack) land'

Reason

The examples in (4.22-4.25), all involve inanimate or abstract AOs, things that cannot in general be interpreted as adficiaries. The interpretation involves the endpoint of the event depicted by the predicate, i.e. the purpose of the event. Thus (4.22) entails that Thomas Mapfumo sings for the end result—money, in (4.23) the reading is done for the endpoint, gaining knowledge, and the poachers only hunt because they know that the end result will be money for them and finally in (4.25) the thugs killed the capitalist for them to attain his wealth at the end of the event. This has been referred to in the literature as motivational goals *the contextual endpoints of predication* (Frawley 1992). This role encodes the result or consequence of a predicate. We can abstract away from the specifics of the situations depicted and say that the AO is the potential or intended GOAL of the event.

In (4.26-4.29), it might be argued that the AO is not the endpoint of the event. For example, the meeting is not the endpoint but its initial point, i.e. the reason for the event. Reason focuses on the *prior conditions* of a predication, that is to say, there has to be a motivational reading for anything to happen, hence, the tie-wearing is motivated by the meeting in (4.26), the coming to a particular place by him/her is motivated by the illness, it is because of the illness that someone visits in (4.27) and it is the ill-fortunes that drives the elder to go to a cleansing ceremony with the diviner (4.28). In (4.29) it is the deprivation of land that motivates the fighters to go and fight. Given this, Frawley (1992) has concluded that reasons can be referred to as motivational sources; the opposite of motivational goals. There is a prior condition that eventually leads to whatever action has to be done in the construction. Though reason and purpose seem to be different it is quite common for

a language to conflate the two. For example, the reason AO may still be interpreted as the (potential) GOAL of the event because it is in order to *go to* the meeting that the suit is being worn, it is because of the illness that someone is motivated to visit and it is because of the ill fortunes that the elder is to go to the diviner. Given this similarity, it appears, therefore, that reason and purpose may be equated, being differentiated only by the pragmatic properties of the situation. With motives we find that the interpretation is based on a causal (motive) reading.

As to whether an adficiary or motive interpretation is more appropriate is always a semantic function, such that many examples can be read as either motive or adficiary. Animate applicative objects are always interpreted as adficiaries while inanimate ones are interpreted as motive. In a motive reading, the event denoted by the verb implies a motive reading and giving it a beneficiary reading will be pragmatically odd. Thus we find that the following motive sentences can in another context be easily interpreted as beneficiary:

(4.30) a. *Ma-poachers* a-no-vhim-ir-a mari chi-pembere
6-poacher 6SM-PST-hunt-APPL-FV 9-money 7-rhinoceros
'Poachers hunt the rhinoceros for money'

Purpose

b. *Ma-poachers* a-no-vhim-ir-a mu-svetaupfumi chi-pembere
6-poacher 6SM-PST-hunt-APPL-FV 1-capitalist 7-rhinoceros
'Poachers hunt the rhinoceros for the capitalist'

Beneficiary

(4.31) a. Ma-*comrades* a-ka-rw-ir-a i-vhu
6-fighter 6SM-PST-fight-APP-FV 5-soil
'The freedom fighters fought because of (lack) land'

Reason

b. Ma-*comrades* a-ka-rw-ir-a va-nhu ve-Zimbabwe
6-fighter 6SM-PST-fight-APP-FV 2-person of-9-country
'The freedom fighters fought for the people of Zimbabwe'

Beneficiary

The difference between the two as to whether the applied object is a beneficiary or motive interpretation is determined by the semantics of the AO as to whether it is animate or inanimate. When the reading of the AO is interpreted as animate

then we have a beneficiary reading as shown in examples (4.30b) and (4.31b) and when the AO is inanimate, then the reading given is that of motive as exemplified in (4.30a) and (4.31a).

So far, therefore, two basic meanings for the applicative seem to be discernible: ADFICIARY and MOTIVE. However, taking up the idea of MOTIVE as being a potential GOAL, we may conceive of the ADFICIARY relation as being an instantiation of the same abstract role because in this situation it is also the case that the AO is also the intended GOAL of an event or an entity. What differentiates the two interpretations is the animacy of the AO itself, with the adficiary being animate and motive being inanimate (see also Wald (1997)). Thus, we may treat V-r- as denoting a single relation POTENTIAL GOAL which is generally instantiated as ADFICIARY if the AO is animate and as MOTIVE if not.

Thus, it appears that the applicative morpheme can be treated as expressing, in its most common manifestations, an underspecified relation POTENTIAL GOAL with polysemous interpretations induced by context. The hypothesis so far can be shown as in figure 4.1:

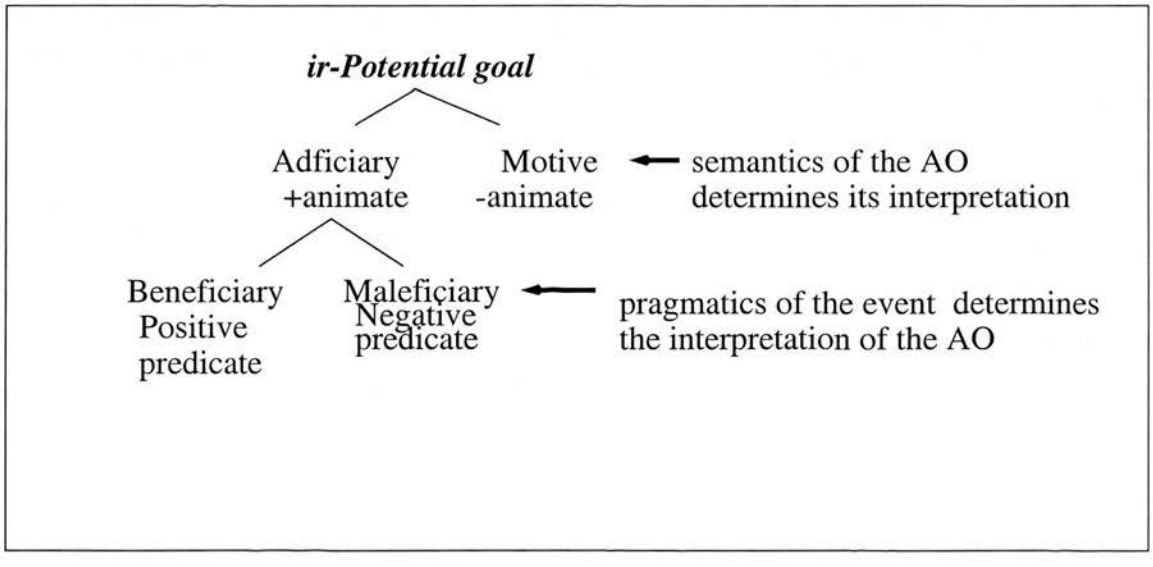


Figure 4.1: Potential goal structure

Figure (4.1) highlights the different instantiations associated with the applicative suffix. Fleshing out the actual relation expressed by the applicative suffix in all the examples shown above depends on other factors in the context, the nature of the predicate, and the properties associated with the applied object.

In sum so far, though we have three distinct roles associated with the applicative suffix, it has been shown that the three roles are derived from a single role. What differentiates these roles depends on context, the meaning of the predicate and the pragmatic properties associated with the applied object. The introduced argument is indeed a *potential goal.* Moreover, this *potential goal* denotes a relation between the AO and the event denoted by the verb (beneficiary, maleficiary and motive) or the relation between the AO and the logical object of the verb (beneficiary). Concentrating on the syntactic aspects of the applicative suffix as done in Chapter 2 or 3 could not have brought out this systematic relationship.

4.3.4 Goal applicatives

In ChiShona, we find applied objects interpreted also as true, locative GOALs. The interpretation of an AO as a true goal is dependent on the lexical meaning of the verb. In non-applicative verbs GOALs are generally encoded as oblique objects with the use of a locative argument headed by *kuna* [7]. Their applied counterparts, however, may internalise an adjunct phrase and this argument acquires all the properties of a direct object, since it has to be obligatorily subcategorised for (see Khamisi (1985))[8]. The important point to note is that an object is at the end located *at the applied object*:

(4.32) a. Mai va-ka-tum-a mw-ana (ku-na mbuya)
1a-mother 2aSM-PST-send-FV 1-child 17-ASS 1a-grandmother
'Mother sent the child towards grandmother'

[7] *kuna* illustrates the usage of the locative argument. Before proper names and titles in class 1a, the prefix *ku-* becomes *kuna*, which shows that nouns in this class can have a locative interpretation. With street names also *kuna* and *muna,* as well as *pana* can be used Pelling & Mujombi (1993). This locative is a combination of the class 17 prefix and an associative marker. This has been argued to be a form of a preposition in Chishona (Harford (1993)). However, it must be pointed out that within most Bantu languages the category of preposition has been assumed not to exist hence, it is an area that needs further research. I will not go into much detail but just assume that *kuna* marks an oblique form within a goal oriented phrase and view it as a locative argument

[8] Following standard linguistic practice, I will use brackets to indicate the optionality of the adjunct phrases

b. Mai va-ka-tum-ir-a mw-ana mbuya
1a-mother 2aSM-PST-send-APPL-FV 1-child 1a-grandmother
'Mother sent the child to grandmother'

c. Mai va-ka-tum-ir-a mw-ana kuna mbuya
1a-mother 2SM-PST-send-APPL-FV 1-child 17-ASS 1a-grandmother
'Mother sent the child to grandmother'

(4.33) a. Mw-ana a-ka-mhany-a (ku-na mai)
1-child 1SM-PST-run-FV 17-ASS 1a-mother
'The child ran towards mother'

b. Mw-ana a-ka-mhany-ir-a mai
1-child 1SM-PST-run-APPL-FV 1a-mother
'The child ran to mother'

c. Mw-ana a-ka-mhany-ir-a ku-na mai
1-child 1SM-PST-run-APPL-FV 17-ASS 1a-mother
'The child ran to mother'

(4.34) a. Mw-ana a-ka-w-a (mu-tsime)
1-child 1SM-PST-fell-FV 18-well
'The child fell[while it was already] in the well'

b. Mw-ana a-ka-w-ir-a mu-tsime
1-child 1SM-PST-fell-FV 18-well
'The child fell[from somewhere] into the well'

(4.35) a. Stella a-ka-kush-a ru-kweza (ku-shiri)
1a-name 1SM-PST-threw-FV 11-millet 17-10-bird
'Stella threw millet towards the birds'

b. Stella a-ka-kush-ir-a ru-kweza shiri
1a-name 1SM-PST-threw-FV 11-millet 10-bird
'Stella threw millet at/to the birds'

c. Stella a-ka-kush-ir-a ru-kweza ku-shiri
1a-name 1SM-PST-threw-APPL-FV 11-millet 17-10-bird
'Stella threw millet at/to the birds'

(4.36) a. Godhi a-ka-nyor-a tsamba (ku-na Anatoria)
1a-name 1SM-PST-write-FV 9-letter 17-ASS 1a-name
'Godfrey wrote a letter to Anatoria'

b. Godhi a-ka-nyor-er-a Anatoria tsamba
1a-name 1SM-PST-write-APPL- FV 1a-name 9-letter
'Godfrey wrote a letter to Anatoria'

c. Godfrey a-ka-nyor-er-a tsamba ku-na Anatoria
1a-name 1SM-PST-write-APPL-FV 9-letter 17-ASS 1a-name
'Godfrey wrote a letter to Anatoria'

(4.37) a. Kundishora a-ka-kav-a bhora (ku-na Anotida)
1a-name 1SM-PST-kick-FV 5-ball 17-ASSO 1a-name
'Kundishora kicked a ball towards Anotida'

b. Kundishora a-ka-kav-ir-a bhora Anotida
1a-name 1SM-PST-kick-APPL-FV 5-ball 1a-name
'Kundishora kicked a ball to Anotida'

c. Kundishora a-ka-kav-ir-a bhora ku-na Anotida
1a-name 1SM-PST-kick-APPL-FV 5-ball 17-ASSO 1a-name
'Kundishora kicked a ball to Anotida'

(4.38) a. Muchaneta a-ka-sund-a cheya (ku-na Vimbai)
1a-name 1SM-PST-push-FV 9-chair 17-ASSO 1a-name
'Muchaneta pushed a chair towards Vimbai'

b. Muchaneta a-ka-sund-ir-a cheya Vimbai
1a-name 1SM-PST-kick-APPL-FV 9-chair 1a-name
'Muchaneta pushed a chair to Vimbai'

c. Muchaneta a-ka-sund-ir-a bhora ku-na Vimbai
1a-name 1SM-PST-kick-APPL-FV 9-chair 17-ASSO 1a-name
'Muchaneta pushed a chair to Vimbai'

Example (4.32a) shows the ditransitive base form *tuma* 'send', with one object and an optional locative argument *kuna mbuya*. (4.32b), on the other hand, shows the applied form *tumira* 'send to' with two objects *mwana* and *mbuya*. Notice that *mbuya*, 'grandmother', in this applicative form is not marked. However, example (4.32c) is more interesting in that the locative marker co-occurs with an applied verb. Under a syntactic analysis, like a preposition incorporation as postulated by Baker (1988) this should be unacceptable. For the verb 'send', the notion of a GOAL is central as it involves the transfer of something to somewhere, in this case the grandmother is the GOAL of the sending of the child. There is the movement of a child to grandmother. In example (4.32) then there is the movement of the child, and this particular child ends up being located at another new location, at grandmother.

One of the differences between the applicative and non-applicative versions in the examples above relates to the endpoint of the event described. The sentences with

oblique marked goals do not carry the implication that the non-applicative object necessarily arrives at the goal. For example, in (4.32a) the 'child' may not reach grandmother. I have referred to this as 'unachieved goal' as mainly shown by the use of 'towards'in English (Mabugu 2001). Most native speakers agree that the child in (4.32a) might be sent to grandmother and not reach her. In a like manner, the child might run towards mother as a welcoming gesture, but might be distracted along the way and might not reach its final point. Thus within the (a) examples, the action defined in the event does not necessarily culminate to the endpoint. This entails that whatever is in movement has not yet arrived at the Goal as exemplified by the acceptability of sentence (4.39a) when we use a 'but' clause.

However, in the applicative counterpart (4.32b-4.38b), there is a strong implication that the final destination is reached and this I have referred to as 'achieved' goal (ibid) which can be paraphrased as 'to the point of being at the Goal'. The applicative suffix in this context focuses narrowly on the goal relation that exists between the two objects, the AO and the direct object. What is highlighted in this context is the movement of the subject/object with its location at a specific endpoint, the applied object. The applicative thus serves to strengthen the concept of the goal of the event, yielding the implicature of actual relocation of the direct object. Querying whether the child reached its final destination in terms of acceptability is weird as shown by example (4.39b).

The same reading is available in the (c) examples though there might be a slight difference from inferential context. In the (c) examples the reading is highlighting the final destination. There is a repetition of the goal relation as shown by the occurrence of the applicative morpheme and the locative marker *ku-*. The reading that there is more focus is thus a pragmatic matter. To show that the endpoint is reached we see that example (4.39c) is even stranger than (4.39b). The possibility that the child would not have reached its final destination is not an available reading.

(4.39) a. Mai va-ka-tum-a mw-ana (ku-na mbuya) asi
1a-mother 2aSM-PST-send-FV 1 child 17-ASS 1a-grandmother but
haana ku-svik-a
NEG 15-arrive-FV
'Mother sent the child to grandmother but she did not arrive'

b. ?Mai va-ka-tum-ir-a mw-ana mbuya asi haana
1a-mother 2aSM-PST-send-APPL-FV 1-child 1a grandmother but NEG
ku-svik-a
15-arrive-FV
'Mother sent the child to grandmother but she did not arrive'

c. ??Mai va-ka-tum-ir-a mw-ana ku-na mbuya
1a-mother 2aSM-PST-send-APPL-FV 1-child 17-ASS 1a grandmother
asi haana kusvika
but NEG 15-arrive-FV
'Mother sent the child to grandmother but she did not arrive'

The weird nature in terms of interpretation is a pragmatic issue instead of a matter of grammaticality. Because examples (4.39 and c) are pragmatically odd one can thus suggest that it is because of the fact that the destination has been reached and therefore there is no way we can say that the child did not reach its final destination.

Another difference between (b) and (c) sentences is that the applicative sentences are ambiguous between a beneficiary and a goal reading. Thus in order to highlight the real goal reading as opposed to a beneficiary one, the locative marker can be used as a device of emphasising that this reading is a goal one (Hawkinson & Hyman (1974)). There is need to say more on this subject, but the main issue is that it is possible to give different interpretations between applicative constructions and their non-applicative constructions.

Clearly, this use of the applicative morpheme can be connected with the adficiary and motive uses noted above: all involve the concept of GOAL. The difference between them is derived from the semantics of the verb. Where the verb is associated with a GOAL role through its lexical meaning, the internalisation of this role as an AO serves to specify that the endpoint is achieved. Hence, we have what we might call a TRUE GOAL, differentiated from the POTENTIAL GOAL underlying adficiary and motive readings by the semantics of the verb. [9]

We can thus hypothesise that V-r- denotes a general GOAL relation, with the particular interpretations as true goal, motive, beneficiary or maleficiary determined by

[9]Note that the TRUE GOAL reading can be seen as a pragmatic effect of emphasising the GOAL relation by the use of the applicative, a double goal, if you like. Thanks to Ronnie Cann for this observation. In the instances that we have both a *ku-* and V-r- then we have a pragmatic effect of a double, double goal since both *ku-* and V-r- are markers of a goal. This according to Maarten Mous(pc) is also similar to the causative construction for its double agent.

the semantics and pragmatics of the verb, its arguments and the AO as illustrated in figure 1.2 below:

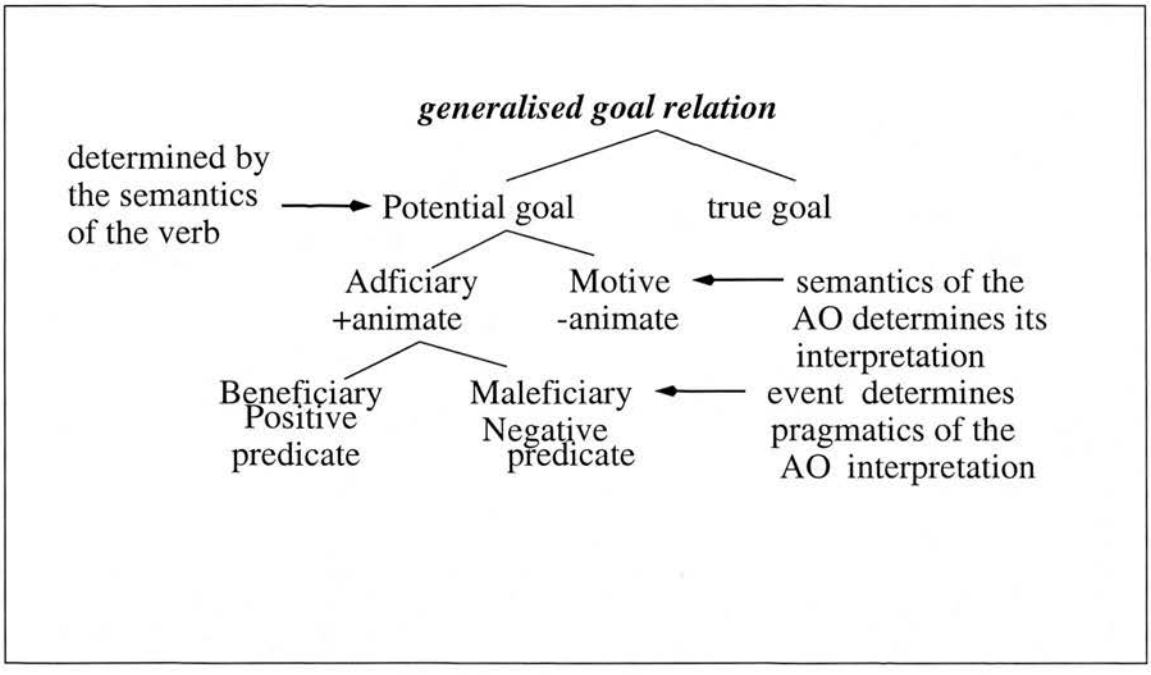


Figure 4.2: Generalised goal relation structure

The logical outcome of such a figure is that the applicative suffix is basically associated with a single relation, that of a GENERAL GOAL RELATION whose instantiations are determined by context.

By now it should be clear that the relation between the different senses is motivated. All these different interpretations are considered polysemous senses of a goal and as observed from the data such a conclusion is only possible due to extra inferential context, the semantics of the verb, the semantics of the applied object and the properties of the applied objects.

Let us summarise what has been presented in this section so far. The applicative object is seen as a general GOAL, with the particular instantiations as true goal, motive, beneficiary or maleficiary determined by the semantics and pragmatics of the verb, its arguments and the AO. These instantiations are determined by the context. Hence we have two types of goal interpretation associated with the applicative suffix so far, a *true goal* distinguished from a *potential goal* by the semantics of the verb. The potential goal is further distinguished into *adficiary* and *motive* due to the pragmatic properties of the applied object. The adficiary goal is further defined into beneficiary and maleficiary depending on the semantics of the predicate. The

goal relation defined in these instantiations is either a relation between the AO and the event denoted by the verb or between the AO and the logical object of the verb.

4.4 Other Applicative Roles

In the previous section it has been argued that the single semantic construction associated with the applicative suffix results from extra inferential effects, the semantics of the verb, semantics of the applicative object and the properties of the applied object. Section 4.3 further concluded that we have two types of goals, a true goal differentiated from a potential goal by the semantics of the verb. In this section, I will focus on the locative and the source applicatives. These two roles are distinct from the common roles discussed above in that the goal role implied from the prototypical type is not directly observable on the surface. Chishona makes available adjunct phrases for applied locatives just as in applied goals. Although Salkie (1994) and Harford (1993) conclude that the applied extension is not obligatory with a locative, it is important to account for why Chishona speakers should use the morpheme in one context or also make use of its paraphrase. The pairs of sentences with or without the applied suffix may have the same basic meaning but many Chishona speakers agree that there is a subtle difference in interpretation between the two sentences.

4.4.1 Locative

As shown by Harford (1993) and Salkie (1994), within Chishona, locatives may appear in the clause without being introduced by an applicative extension, thus setting up a situation where the language has minimal pairs of sentences in which the only contrast is the presence or the absence of the applicative morpheme. As agreed by most native speakers, it is very difficult to tease these minimal pairs apart. Consider the sentences in (4.40-4.44):

(4.40) a. Yeso a-ka-chem-a (pa-mu-chinjikwa)
1a-Jesus 1SM-PST-weep-FV 16-3-cross
'Jesus wept on the cross'

b. Yeso a-ka-chem-er-a pa-mu-chinjikwa
1a-Jesus 1SM-PST-weep-APPL-FV 16-3-cross
'Jesus wept [while he was]on the cross'

c. *Yeso a-ka-chem-er-a mu-chinjikwa
1a-Jesus 1SM-PST-weep-APPL-FV 3-cross
'Jesus wept for the cross'

(4.41) a. Anotida a-ka-famb-a (mu-bindu)
1a-name 1SM-PST-walk-FV 3-garden
'Anotida walked in the garden'

b. Anotida a-ka-famb-ir-a mu-bindu
1a-name 1SM-PST-walk-APPL-FV 18-5-garden
'Anotida walked [while he was] in the garden'

c. *Anotida a-ka-famb-ir-a bindu
1a-name 1SM-PST-walk-APPL-FV 5-garden
'Anotida walked for the garden'

(4.42) a. Baba v-ake va-ka-f-a (mu-ma-oko a-ke)
1a father his 2SM PSTdieFV 18-6-hand POSS
'His/Her father died in his/her hands'

b. Baba v-ake va-ka-f-ir-a mu-ma-oko a-ke
1a-father POSS 2aSM-PST-die-APPL-FV 18-6-hand POSS
'His/Her father died in his/her hands'

c. *Baba v-ake va-ka-f-ir-a ma-oko a-ke
1a-father POSS 2aSM-PST-die-APPL-FV 6-hand POSS
'His/Her father died for his/her hands'

(4.43) a. Mu-biki a-no-bik-a sadza (pa-moto)
1-cook 1SM-PRE-cook-FV 5-sadza 16-9-fire
'The cook is cooking sadza on an open fire'

b. Mu-biki a-no-bik-ir-a sadza pa-moto
1-cook 1SM-PRE-cook-APPL-FV 5-sadza 16-9-fire
'The cook is cooking *sadza* on an open fire'

c. *Mu-biki a-no-bik-ir-a sadza moto
1-cook 1SM-PRE-cook-APPL-FV 5-sadza 9-fire
'The cook is cooking *sadza* for an open fire'

(4.44) a. Margret a-ka-nyor-a tsamba (pa-tafura)
1a-name 1SM-PSTwriteFV 9 letter 16 9 table
'Margret wrote a letter on the table'

b. Margret a-ka-nyor-er-a tsamba pa-tafura
1a-name 1SM PSTwriteAPPL FV 9 letter 16 9 table
'Margret wrote a letter on the table'

c. *Margret a-ka-nyor-er-a tsamba tafura
1a-name 1SM PSTwriteAPPL FV 9 letter 9 table
'Margret wrote a letter for the table'

These examples allow us to identify and isolate the effects associated with modifying phrases as opposed to obligatory arguments. For example, the sentence (4.40a-4.42a) are intransitives used with an optional locative argument, *pamuchijikwa, mubindu, maoko ake*, 'on the cross, in the garden and in his/her arms' respectively. These sentences have more than one interpretation. For example, in sentence (4.42a) the preferred reading is that defining the dying of the father at a specific location, in whoever's hands. A further available reading is the dying happened while he was being looked after by the child, aunt or whoever. However, when we have the applicative verb, these two readings are restricted to one and sentence (4.42b) means and only means 'the event of father dying' is located in someone's arms. The dying of the father is restricted to be in the child's arms specifying a relation between the dying and where it occurred.

The same is true for the other examples, in (4.40a) Jesus wept whilst he was on the cross or when he just passed through the cross. This is however, disambiguated in example (4.40b) in that the weeping of Jesus was located right on the cross. He wept whilst he was on the cross, when he was being crucified. Similarly, example (4.41a) also has two readings in that Anotida might have taken a walk through the garden or the walk was within the vicinity of the garden. This is disambiguated to one reading in (4.41b) in that the walking actually happened in the garden. This sentence has a specialised interpretation; if Anotida is a baby one can interpret this sentence to mean that he took his first walking steps in the garden or a general reading that he began to walk in the garden after a long illness, his first signs to recovery. The truth of the matter is that the locative applicative emphasises the fact that the walk took place in the garden. What then seems to be happening within applicative sentences is putting Jesus, Anotida, and father respectively in a specific location where the event occurred and seem to be emphasising the location where the event happened.

Examples (4.43-4.44) show instances of transitive verbs. We have the transitive usage of cook in (4.43a) with the optional locative object 'on open fire.'[10] The

[10]The issue of the dual nature of locatives has occupied Bantu linguists for a while as to whether locatives should be treated as adverbs or as noun phrases. Perez-Harford (1983) argues that Chishona locatives should be treated as adverbs since they are pseudo-subjects. Arguments have been postulated to treat locatives as prepositional phrases as argued for by Kashina (2000) when he analyses Silozi and claims that the locative classes of 15, 16, 17 and 18 within this language should

difference between (4.43a) and (4.43b) is that in the applicative form there are additional inferential effects in that in (4.43b) it is not just simple cooking as in (4.43a)but it is his/her habit to cook *sadza* on an open fire. The habitual reading seems not only to be brought out by the applicative but the combination of the applicative and tense.[11] Another available reading is that the cook was cooking on an open fire instead of a stove perhaps because the sadza required a certain amount of fire heat.

Similarly, in example (4.44a) we have the transitive use of *nyora*, here with an optional adjunct, 'on the table'. The applicative form has two objects and with extra contextual effects, the applicative's interpretation is that Vimbayi wrote the letter this time on the table rather than on the floor for example. The applicative suffix is in this context used as a focusing device, 'contrastive' if you like. As can be seen from the above, although examples (4.40-4.44a) and (4.40-4.44b) encode the same proposition, it can be seen that the applied verb licenses an extra object and at the same time additional contextual effects which are not found within the non-applicative verb.

What should be clear from these examples is that the locative marker in locative object examples is retained. If the locative marker is 'incorporated' (*à* la Baker) the sentence with an applicative verb is unfelicitous as illustrated in the ((4.40-4.44c)examples[12]. The introduction of an unmarked locative renders an inappropriate interpretation, at most giving a beneficiary reading which is unacceptable. This shows that locative arguments within Chishona should be treated as noun phrases which a verb can be obligatorily subcategorised for given appropriate modifications.

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be analysed as prepositions. Similarly, Dembetembe (1987) argues that the locative complements are distinct from real objects because we cannot question them using the same question word form as other nouns. However, in this thesis I will argue just like Bresnan & Kanerva (1989), Bresnan (1991) that through distributional as well as morphological considerations, the locative, should be treated as a noun phrase. Locatives can appear in both subject and object position, for example. Moreover, locatives pass the object tests for Bantu, object marking on the verb, passivisation and word order (Hyman & Duranti 1982). More strikingly, locative subjects induce obligatory subject-verb agreement, and this feature is inherently a nominal feature. Furthermore, just like other nouns within the classification system, locatives are class marked. Thus given this, I will treat the locatives as noun phrases. For a more detailed analysis of the noun status of locatives see Bresnan & Kanerva (1989), Appendix 1 .

[11]More research needs to be done on the relation between tense and applicatives.

[12]The examples marked* are characterised as anti-pragmatic, that they are instances which express a state of affairs alien to the speaker's concept of the world. These examples according to James Hurford(pc) should be considered as unacceptable rather than ungrammatical. This brings in the whole debate of grammaticality versus ungrammatical which is beyond the scope of this thesis. One should perhaps view these examples as an area of research between semantics and pragmatics. I leave this for future research

The function of the applicative suffix in these instances is to emphasise/highlight the event and where it specifically took place. The subject in these examples is mainly restricted to be located at the applied object. To reinforce this argument, observe the following examples:

(4.45) a. Patrick a-ka-on-a va-sikana (mu-gomo)
1a-name 1SM-PST-see-FV 2-girl 18-5-mountain
'Patrick saw the girls[while they were] on the mountain'

b. Patrick a-ka-on-er-a va-sikana mu-gomo
1a-name 1SM-PST-see-APPL-FV 2-girl 18-5-mountain
'Patrick saw the girls[while he was] on the mountain'

(4.46) a. Ramos a-ka-nzw-a mu-mhazi (mu-chovha)
1a-name 1SM-PST-hear-FV 3-music 18-taxi
'Ramos heard music[while it was] in the *emergency taxi*'

b. Ramos a-ka-nzw-ir-a mu-mhazi mu-chovha
1a-name 1SM-PST-hear-APPL-FV 3-music 18-taxi
'Ramos heard music[while he was] in the *emergency taxi*'

Sentences (4.45 and 4.46) have two available readings. The preferred reading, due to world knowledge in sentence (4.45a) is that the girls were on the mountain and Patrick saw them without indicating anything specific about Patrick's location. Sentence (4.46a) has the preferred reading in which Ramos heard the music from the emergency taxi without indicating his location while the music is located in the emergency taxi.

The second available reading is that 'Patrick seeing the girls' event took place on the mountain, with the entailment that both Patrick and the girls were on the mountain in (4.45). As for (4.46) the other reading is that Ramos and the music were both located in the emergency taxi. These two readings are disambiguated by the introduction of the applicative suffix in that sentence (4.45b) repeated here as (4.47):

(4.47) Patrick a-ka-on-er-a va-sikana mu-gomo
1a-name 1SM-PST-see-APPL-FV 2-girl 18-5-mountain
'Patrick saw the girls[while he was] on the mountain'

which entails that Patrick's seeing the girls activity is true if and only if Patrick is also on the mountain. There is however no available reading which places Patrick

on the mountain and the girls somewhere else. So an applicative locative in this context can be said to have the semantic function of restricting/constraining the location of an event as a whole, or of particular participants in the event (in this case the subject is restricted to be located at the applied object for the truth value of the sentence to be satisfied). Similarly, the direct object can be said to be restricted/constrained to be on the mountain for the proposition to be rendered true. The semantic effect is to add a restriction on the LOCATION, associated with the situation, thus Patrick's seeing the girls' event is located on the mountain. An applicative locative phrase can be taken as restricting/constraining the location of an event as a whole, or of particular participants in the event (direct object, subject).

The same holds true for example (4.48)

(4.48) Ramos a-ka-nzw-ir-a mu-mhazi mu-chovha
1a-name 1SM-PST-hear-APPL-FV 3-music 18-taxi
'Ramos heard music[while he were] in the *emergency taxi*'

in that the whole event of Ramos hearing the music is specified to have occurred in the emergency taxi, with absolute location of Ramos in the emergency taxi, for this proposition to be true. There is no reading in which the music is placed somewhere else, it has to be within the emergency taxi.

In essence, V-r- seems to add or specify new information about an index for which the event was previously underspecified for by internalising an adjunct and restricting the subject or the event defined in the sentence to have occurred at a particular location. These examples reveal a relationship between the subject/object and the locative object in the applicative forms but not in the non-applicative forms. In the non applicative forms, the locative noun phrase is an adjunct phrase and hence is optional, while the applicative example shows internalisation of the phrase licensed by the applicative (Khamisi 1985). In this context then, V-r- has a locative interpretation which depending on the context can be at, in, on, near, underneath, to, the applied object. In locative applicative constructions, the locative applied object is additional and both it and the logical object show direct object properties as argued in Mabugu (2001).

4.4.2 Source

Subsection (4.4.1)has shown that the applicative suffix can have a locative interpretation showing the location at which an activity has taken place. Source is different from the locatives above, in that, source defines the initial point of movement. The source interpretation is mainly determined by the lexical meaning of the verb.

(4.49) a. Patricia a-ka-simuk-a (ku-Edinburgh)
1a-name 1SM-PST-depart-FV 17-place
'Patricia departed from Edinburgh'

b. Patricia a-ka-simuk-ir-a ku-Edinburgh
1a-name 1SM-PST-depart-APPL-FV 17-place
'Patricia departed from Edinburgh'

(4.50) a. Chi-tima cha-ka-bv-a ku-Harare
7 train 7SM-PST-come fromFV 17-place
'The train came from Harare'

b. Chi-tima cha-ka-bv-ir-a ku-Harare
7 train 7SM-PST-come from-APPL-FV 17-place
'The train came from Harare'

As indicated by Matambirofa (pc) the sentences above are very difficult to tease apart since they mean one and the same thing, in that the train or Patricia departed from a particular location. However, although this might be true, most native speakers tend to agree that given enough contextual information and making enough inferences the two near paraphrases are subtly distinct. In the non-applicative form there is the implication that the departure point for Patricia for example was Edinburgh and that is where she left from and could be anywhere in Edinburgh as well as the fact that Patricia was taking a rest in Edinburgh and then she has left from there. The same is true for the train in that its point of departure was Harare, anywhere in Harare or the fact that it was taking a break and now it is continuing with its journey. However, in the applicative form, there is more to this point of departure in that there is an implication of an exact location of the point of departure. In other words, given (4.49b), the interpretation entails that it was at a particular location in Edinburgh, for example Edinburgh airport and for the train it has to be at the Harare train station. Also in this reading there seems to be an implication of contrastive focus. For example, due to some complication Patricia's departure point ended up being Edinburgh instead of somewhere else. The same is true for the train, its point of origin ended up being Harare instead of Bulawayo for

instance. With source applicatives, the reading can be seen as a pragmatic effect of emphasising the source relation by the use of the applicative, a double source.

Native speakers also seem to agree on the point that the applicative form is the more accurate and appropriate expression with respect to the place from which the event of departure was affected. The starting point is more definite within the applicative form rather than within the non-applicative form.

Strict source constructions seem to behave differently from other source–like constructions. As can be seen from the examples, sources have adjunct phrases as well. The adjunct is marked by a lexicalised verbal form *kubva*,'coming from', meaning from.

(4.51) a. Bvut-a banga i-ro
Snatch-FV 5-knife 5-DEM
'Snatch that knife'

b. Bvut-ir-a mw-ana banga i-ro a-no-zvi-chek-a
Snatch-APPL-FV 1-child 5-knife 5-DEM 1 SM-FUT-REFL-cut-FV
'Snatch that knife away from the child, it will cut itself'
Fortune[pg.27] (1984)

(4.52) a. Ma-*war veterans* a-ka-tor-a purazi (ku-bv-a ku-mu-rimi)
6-war veteran 6SM-PST-take-FV 5-farm 15-come-FV 17-1-farmer
'The war veterans took the farm from the farmer'

b. Ma-*war veterans* a-ka-tor-er-a mu-rimi purazi
6-war veteran 6SM-PST-take-APPL FV 1-farmer 5-farm
'The war veterans took the farm away from the farmer'

c. *Ma-*war veterans* a-ka-tor-er-a purazi ku-bv-a ku-mu-rimi
6-war veteran 6SM-PST-take-FV 5-farm 15-come-FV 17-1-farmer
'The war veterans took the farm away from the farmer'

(4.53) a. Ma-kororo a-ka-b-a mbudzi (ku-bv-a ku-mu-rimi)
6-thug 6SM-PST-steal-FV 10-goat 15-come-FV 17-1-farmer
'Thugs stole goats'

b. Ma-kororo a-ka-b-ir-a mu-rimi mbudzi
6-thug 6SM-PST-steal-FV 1-farmer 10-goat

c. Ma-kororo a-ka-b-ir-a mbudzi (*ku-bva) ku-mu-rimi
6-thug 6SM-PST-steal-FV 10-goat 15-from-FV 17-1-farmer

'Thugs stole goats from a farmer'

For the verbs, *bvuta, tora* and *-ba*, ' snatch, take and steal,' the notion of SOURCE is presupposed as it involves the displacement of an object from its original point. In the event presented in (4.51), the child is the point of origin of the snatching of the knife, in that of (4.52), the war veterans' taking of the farm has its origin in the farmer and as well as in (4.53), the stealing of the goats originates from the farmer. Most verbs found with source arguments specifically express the transfer of something from somewhere or someone. For instance if you snatch, steal, or take a baby you are removing it from its original location. Thus all the above data are reasonably interpreted as a source. Note, however, that this could vary depending on context: e.g. if (4.52) is to be assessed in a situation where the farmer has lost his farm to his workers for instance and the war veterans helped him to retrieve it, then in this case, it will be interpreted as a benefactive or in (4.53) in a situation where the farmer has actually paid the thugs to steal the goats from somewhere else to enable him to have more goats, in all these instances the farmer sets to benefit. Whatever, the actual interpretation is, it is clear that what is said underspecifies the relation between referent and event and certainly does not assert any specific relation but the context implicates it.

Note however that we cannot have instances in which the adjunct form co-occurs with the applicative construction. Native speakers find such examples as unacceptable[13]

Not all typical sources behave in this way of maintaining the source reading as shown above. There are examples found in Chishona, in which the source is encoded in the verb, thus it can appear as a default reading with the verb or it may be left out. However, when the applicative suffix is added, this default reading is not maintained but we end up with a complete idiosyncratic meaning which is different from the original verb as illustrated in examples (4.54-4.59):

(4.54) a. Beatrice a-ka-dzok-a ((ku-bv-a) ku-chi-koro)
1a-name 1SM-PST-return-FV 15-come-FV 17-7-school
'Beatrice returned from school'

b. Beatrice a-ka-dzok-er-a ku-chi-koro
1a-name 1SM-PST-return-APPL- FV 17-7-school
'Beatrice went back to school'

[13] *Kuva*, 'from' in contrast to the goal *ku-* in all its different variation seems not to be able to co-occur with the applicative morpheme.This observation is just impressionalistic, there is need to do further research of the co-occurrence of *kubva* and the applicative form.

(4.55) a. Ma-*war veterans* a-ka-tiz-a ((ku-bv-a) pa-purazi)
6-war veterans 6SM-PST-flee-FV 15-come-FV 16-5-farm
'War veterans fled from the farm'

b. Ma-*war veterans* a-ka-tiz-ir-a pa-purazi
6-war veterans 6SM-PST-flee-FV 16-5-farm
'War veterans ran onto the farm'

(4.56) a. Juliet a-ka-tinh-a mombe ((ku-bv-a) mu-mu-nda)
1a-name 1SM-PST-drive-FV 10-cattle 15-come-FV 18-3-field
'Juliet drove cattle from the fields'

b. Juliet a-ka-tinh-ir-a mombe mu-mu-nda
1a-name 1SM-PST-drive-APPL-FV 10-cattle 18-3-field
'Juliet drove cattle into the fields'

(4.57) a. Manu a-ka-tut-a mu-fudze ((ku-bv-a) mu-bhara)
1a-name 1SM-PST-carry-FV 3-manure 15-come-FV 18-3-field
'Manu carried manure from the wheel barrow'

b. Manu a-ka-tut-ir-a mu-fudze mu-bhara
1a-name 1SM-PST-load-FV 3-manure 18-3-field
'Manu loaded manure onto the wheel barrow'

(4.58) a. Grace a-ka-tsvair-a ma-rara ((ku-bv-a) mu-mba)
1a-name 1SM-PST-sweep-FV 6-dirt 15-come-FV 18-room
'Grace swepr dirt from the room'

b. Grace a-ka-tsvair-ir-a ma-rara mu-mba
1a-name 1SM-PST-sweep-APPL-FV 6-dirt 18-room
'Grace swept dirt into the room'

(4.59) a. Anna a-ka-zvuv-a mw-ana ((ku-bv-a) mu-gomba)
1a-name 1SM-PST-pull-FV 1-child 15-come-FV 18-5-hole
'Anna pulled the child from a hole'

b. Anna a-ka-zvuv-ir-a mw-ana mu-gomba
1a-name 1SM-PST-pull-APPL-FV 1-child 18-5-hole
'Anna pulled the child into a hole'

These data highlight the fact that the source interpretation of the non-applicative verbs derive from the semantics of the verb (for instance, fleeing implies something one flees from, sweep implies removing something from somewhere). As already said, this implies a default reading since the source argument is already encoded in the semantics of the verb. In actual fact, the source argument is in most cases

left out since it is implied. However, as can be seen with applicatives, a goal is required and so the default reading is not available. The applicative suffix in these context introduces goal interpretation. These verbs, in association with an applicative strongly encode a strict goal reading as opposed to a source reading, that is an event oriented towards an AO. The literature on Bantu applicatives is mainly silent about these examples, which Harford (1993) calls lexicalised/idiomatic, noting that they fall outside the purview of Lexical Mapping Theory (Bresnan & Moshi (1990), Alsina & Mchombo (1992)), because the theta roles are not held constant, but change from SOURCE to GOAL.

As can be seen from the (4.54-4.59a) examples, the event of 'fleeing', 'sweeping', 'pulling', 'driving', have a strong entailment of source even when the adjunct is omitted. The nature of interpretation still implies a source reading. The source NPs with verbs like 'return', 'flee' and so on, are highly predictable adjuncts (i.e. there are not really complements but they are also not really adjuncts in being tightly linked to the meaning of the verb). When the applicative suffix is added, a goal NP is directly added to the semantics of the verb (a goal is internalised)and hence we have an apparent shift from a source reading to a goal reading. The NP found in the non-applicative marking the source relation is thus different from the one that is found in the applicative, which is an internalised goal. The source NP may become less tightly associated with the verb as illustrated below:

(4.60) Patricia a-ka-dzok-er-a ku-Harare a-chi-bv-a ku-Edinburgh
1a-name 1SM-PST-depart-APPL-FV 17-Harare 1SM PRE-come-FV 17-Edinburgh

'Patricia returned to Harare coming from Edinburgh'

The importance of this example is to show that Edinburgh is interpreted as the source while Harare is the goal. Edinburgh is marked as a source NP as in non-applicative forms in example (4.60). The difference in marking in the applicative is to properly identify the source NP otherwise this might result in ambiguity as to which is the point of origin and which is the point of destination. This shows that the source and goal NPs are not related. The shift to a goal interpretation associated with the applicative is not just random but is motivated.

In this section, the roles defined have a LOCATIVE relation in that they specify the location found within the event described by the construction, the place where the activity took place or where the activity originated from is emphasised. A question that is inevitable is how do we incorporate these two with the *generalised goal* type

proposed so far. In the next section, I take up this issue and show how these two fit into the hypothesis just like the other types.

4.5 A polysemous account of the different interpretations of the applicative

In section (4.3) it was hypothesised that GOAL, MOTIVE, MALEFICIARY and BENEFICIARY applied objects is a GOAL denoting a relation between the event denoted by the verb or its direct object with the applied object. These instantiations were further concluded to be the common interpretations associated with the presence of an applicative suffix. In this section, I adopt a unitary account of the applicative regardless of the apparent different interpretations and put forward the hypothesis that the applicative suffix is a generalised GOAL relation. In other words, the applied object introduced by the applicative suffix is a **goal**. The problem then is how to incorporate the locative and source roles into this hypothesis since the two seem to identify a *locative* relation. This seems to suggest that our hypothesis stipulated in Section 4.3 is not tenable.

There are two ways in which this position may be rectified. The first way, would be to say that V-r- encodes a general LOCATIVE relation, one that may be interpreted as GOAL, SOURCE or LOCATIVE. While this seems to be a valid generalisation within ChiShona, it fails to account for the fact that the *default* interpretation is as a goal, of a more or less abstract sort, with the source and locative AOs being less frequent.

Alternatively, we can persist in saying that the applicative morpheme denotes a generalised GOAL relation and look for some way of interpreting the locative and source examples as in some way instantiating this relation. In fact it appears that there is such a way. Native speakers perceive applicative constructions involving these roles as emphasising or focusing the AO in some way. In other words, applicative constructions in this context are seen as focusing constructions. It is this that gives rise to the interpretations of locative examples as involving the actual location of an event *at* the AO, since the event is said to be located/being emphasised on the applied object. This idea that V-r- involves focus can be seen in the appropriateness or otherwise of using an applicative form in reply to questions:

(4.61) a. Mw-ana a-ka-famb-(ir-)-a kupi?
1-child 1SM-PST-walk-(APPL)-FV where
'Where did the child walk?'

b. ??Mw-ana a-ka-famb-a mu-bindu
1 child 1SM-PST-walk-FV 3-garden
'The child walked in the garden'

c. Mw-ana a-ka-famb-ir-a mu-bindu
1 child 1SM-PST-walk-APPL-FV 3-garden
'The child walked [while it was] in the garden'

(4.62) a. Ndi-yani a-ka-famb-a mu-bindu?
who 1SM-PST-walk-FV 18-garden
'Who walked in the garden?'

b. Mw-ana a-ka-famb-a mu-bindu
1 child 1SM-PST-walk-FV 3-garden
'The child walked in the garden'

c. *Mw-ana a-ka-famb-ir-a mu-bindu
1 child 1SM-PST-walk-APPL-FV 3-garden
'The child walked in the garden'

(4.63) a. Patricia a-ka-simuk-(ir)-a ku-pi?
1a-name 1SM-PST-depart-APPL-FV 17-where
'Where did Patricia depart from?'

b. ??Patricia a-ka-simuk-a ku-Edinburgh
1a-name 1SM-PST-depart-FV 17-place
'Patricia departed from Edinburgh'

c. Patricia a-ka-simuk-ir-a ku-Edinburgh
1a-name 1SM-PST-depart-APPL-FV 17-place
'Patricia departed from Edinburgh'

(4.64) a. Ndi-ani a-ka-simuk-a ku-Edinburgh?
who 1SM-PST-depart-FV 17-place
'Who departed from Edinburgh?'

b. Patricia a-ka-simuk-a ku-Edinburgh
1a-name 1SM-PST-depart-FV 17-place
'Patricia departed from Edinburgh'

c. (*)Patricia a-ka-simuk-ir-a ku-Edinburgh
1a-name 1SM-PST-depart-APPL-FV 17-place
'Patricia departed from Edinburgh'

The importance of these questions is that they highlight what is the most salient or prominent aspect in the sentence. As can be seen in these cases the fact that we use the applicative sentence as our response highlights the fact that it is the most important or salient in the given sentence and highlights the fact that V-r- involves focus since the reply which is the most appropriate incorporates the applicative form. Focus is seen as some notion of emphasis. There is more focus on the applicative form rather than the non-applicative form. What is focused is the locative rather than the subject since this is really known information.

The relevance of these examples is that focus may be interpreted as the DISCOURSE GOAL of a sentence: the new information to be expressed. An effect of this discourse focus is to emphasise/highlight the locative/source relation expressed by the verb (as indeed is the case with applicative goals). As can be seen from this there is the implication that we have two types of goals, an event goal and at a more abstract level a discourse goal. There is more focus/emphasis on the source or locative applicative object as shown by the responses to the questions. In this type of goal, it is not the goal between two arguments as is a typical definition of what encompasses a goal but it is a relation in discourse. The examples above show the AO as the most important aspect within the sentence. What we are looking at is still a goal at a much more abstract level. There is emphasis through double marking: the locative event part.

In this section what is being motivated is the idea that focus is a discourse function. Focus is a fuzzy concept especially when it is associated with the notion of 'new information', the saliency of information that a speaker intends to say. Focus represents the new, salient information intended to update the hearer's knowledge. Intuitively it is true that every speech act attracts a listener's attention either because they are inherently salient or because they are new or they are of special interest to a particular perceiver. These differences of notion in terms of speech acts lead to different viewpoints and are reflected in different linguistic codings of events or states. Speaking is a goal-oriented action, and people structure their utterances to meet the goals of the discourse in which they are momentarily engaged (Forrest 1996:149). Speaking in other words has a purpose. There will be a goal as to why and what one is talking about. Focus defines the purpose or reason to why one is speaking. There is more attention imposed on the locative or source applicative in the above examples. The idea motivated here is that when a focused sentence is uttered it is brought into line with the discourse goals, therefore these two are seen as instantiations of a *discourse goal.*

In the question-answer pairs it is true that a listener knows about departing from Edinburgh, this is presupposed information. However, when we have the applicative construction, the speaker wants his/her listener to pay attention to this, focusing attention on the fact that the departure took place from Edinburgh. *Ku-Edinburgh* as shown in the applicative construction is the most important discourse goal that a speaker wants his listener to pay attention to and as shown by the examples above, information deserving special focus or attention is encoded as an applicative construction. This shows that in these contexts, the applicative suffix introduces a discourse goal.

The above discussion shows the fact that the applicative suffix introduces a goal argument with an applicative construction. Three types of goal relations are discernible from this analysis: (i)a relation between an individual entity event and an applied object, (ii) a goal relation between a logical object and an applied object and finally (iii) a relation between an act of utterance and an applied object. These three relations are what the underspecified *goal* entail.

4.5.1 Summary

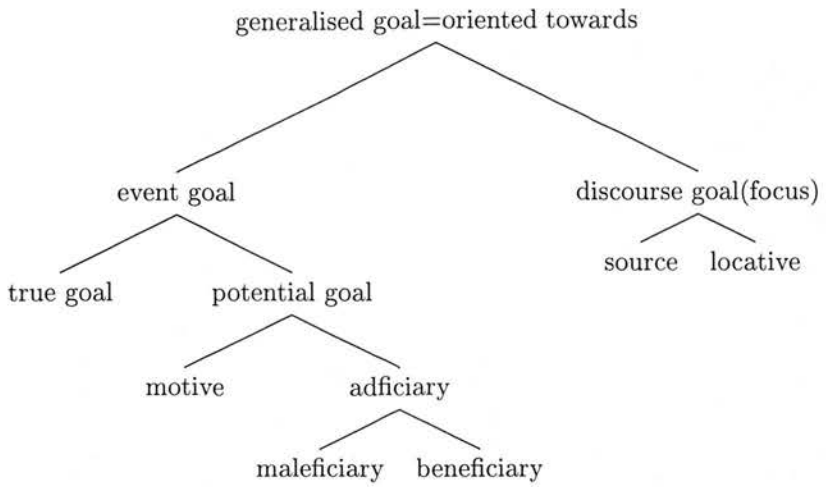
This section has shown that V-r- can be given a general goal interpretation which yields polysemous interpretations in context. The factors which affect actual interpretation in context are:

Contextual Factors	**Yes**	**No**
Can the AO be instantiated as a goal ?	EVENT GOAL	FOCUS
Does the verb assign a GOAL role and is this consistent with the properties of the AO?	TRUE GOAL	POTENTIAL GOAL
Is the AO animate?	ADFICIARY	MOTIVE
Does the event described by the predicate have negative connotations?	MALEFICIARY	BENEFICIARY

Figure 4.3: Contextual factors that affect interpretations associated with the applicative in Chishona

This can be shown graphically by the following tree structure in 4.65 :

(4.65)



What this structure is showing is that all applicatives found within Chishona are derived from a single semantic structure, a *generalised goal.* Defining the different applicative instantiations as discrete elements as has been the norm in syntactic theories is side-stepping the issue of relatedness as shown by the structure above. This chapter has postulated that the different interpretations are related in the sense that they share a common semantic structure, which has the monosemantic interpretation of "*x oriented towards y*", where y=AO and x=event or LO (or subject). All the examples that are applicative in nature are all strengthening of this concept. If a verb has a GOAL entailment then V-r-/-er- meaning can unify with that and strengthen it. If the verb is a verb of motion as shown in examples (4.54-4.59), then V-r-/-er- will supply a goal (event oriented towards AO) reading. Otherwise, 'oriented towards' is interpreted as adficiary/motive depending on the semantics of AO and verb. With Locative and Source, what is oriented here is not so much the event as the discourse function. In other words, the applicative suffix with a locative or source AO involves focus on the locative or source. This is to say discourse function is oriented towards AO.

This highlights the fact that all applicative types found in Chishona are derived from one single semantic representation, a generalised goal which is of two kinds, an event goal and a discourse goal.

4.6 Applicatives which do not encode an increase in valency

Data discussed above show that the use of the applicative verb is licensed by extra inferential effects derived from the predicate, the properties associated with the applied object. The data also shows that the examples above are valency changing instances, in that an extra argument is always added with the presence of an applicative suffix, be it through internalisation or through the addition of an extra argument. However, as briefly discussed in Chapter 3, not all applicative verbs change the valency of their corresponding base verb. There are in Chishona and most Bantu languages in general, a number of lexicalised/idiomatic applicative verbs[14]. Such data has been systematically excluded from most syntactic analyses because of its recalcitrant nature which makes generalisations difficult (see Port (1981) for such arguments)[15]. It is also argued in the literature that these forms are few and unproductive. However, since the aim of this thesis is to fully understand the function of the applicative suffix, syntactically as well as semantically, these forms will be analysed since they provide evidence for the semantic function of the applicative suffix. It is through these non valency increasing instances that we can determine the full semantic effect of the applicative verbs. Lexicalised applied verbs are verbs marked with an applicative morpheme, but which fail to introduce an additional object, and can be analysed as a fossilised applicative suffix using Guthrie (1962)'s terminology. In this section, I discuss two types of lexicalised forms, really lexicalised ones and semi-productive ones.

4.6.1 Lexicalised forms

That such frozen forms exist is shown by the examples illustrated in (4.66) where there are forms that look like the applied form and whose meaning seems to be generally coherent with the meaning characteristic of the applied but for which the necessary base forms without V-r- do not exist.

[14]See Marten (1999, 2000), Bentley (1998), Port (1991), Ashton (1947) for Kiswahili and Matsinhe (1994, 1999) for Tsonga.

[15]However, compare Marten (1999, 2000) for arguments of incorporating such data as a way of getting to the underlying semantic function of the applicative suffix.

	gadzira (prepare)	*gadza	gadzirira(prepare for)
	kambaira (crawl)	*kamba	kambairira (crawl for/to)
	kavira (sow)	*kava	kavirira(sow for)
	kumbira (ask)	*kumba	kumbirira (ask for)
(4.66)	mira (stand)	*ma	mirira(wait for)
	tambira (receive)	*tamba	tambira (receive for)
	tarira (look)	*tara	tariríra(look at/for)
	tsvaira (sweep)	*tsva	tsvairira (sweep for/in)
	tyaira (drive)	*tya	tyairira (drive for)

Thus for instance, there is the example *kumbira* but no **kumba* in the language. Further evidence that these words are simply lexical stems is found in (4.67b) where we find that a regular applied suffix can also be added to these 'pseudo-applicatives' resulting in an extra object.

(4.67) a. Mwana a-ka-mir-a pasi pemuti
1 child 1SMPASTstandFV 17 under 17 3 tree
'The child stood underneath a tree'

b. Mwana a-ka-mir-ir-a **mayi** pasi pemuti
1 child 1SMPASTstand APPLFV 1a mother 17 under 17 3 tree
'The child waited for mother underneath the tree'

This inevitably shows that such instances are independent lexical items. In other words, these are representations of a frozen lexical suffix,since these verbs can add another V-r- that acts like the normally productive one. This results in a double applicative. Such examples behave differently from the semi-productive forms as the next section shows.

4.6.2 Semi-productive lexicalised forms

Central to my discussion is the semi-productive lexicalised applicative forms. This is because they do not increase the valency of the verb yet they have the function of giving us motive, maleficiary, beneficiary depending on the context of the construction as illustrated below:

(4.68) a. Mhunga a-no-muk-a
1a-name 1SM-PRE-wake up-FV
'Mhunga(a bus) leaves early in the morning'

b. Mhunga a-no-muk-ir-a

1a-name 1SM-PRE-wake up-APPL FV

'Mhunga(a bus) leaves very, very early in the morning'(a special kind of waking up)

MOTIVE

(4.69) a. Mu-sikana a-ka-tiz-a

1-girl 1SM-PST-ran away-FV

'The girl ran away'

b. Mu-sikana a-ka-tiz-ir-a

1-girl 1SM-PST-ran away-APPL-FV

'The girl eloped'(a special kind of running away)

MOTIVE

(4.70) a. Pio a-ka-yamw-a

1a-name 1SM-PST-drink-FV

'Pio breastfed'

b. Pio a-ka-yamw-ir-a

1a-name 1SM-PST-drink-APP- FV

'Pio breastfed whilst his mother was pregnant'(a special kind of breastfeeding)

Maleficiary

The examples in (4.68-4.70a) show that the verb is used intransitively without any object. In the applicative counterparts we see that the verb is used equally intransitively with the difference that we have an applied suffix and a meaning difference between the two verbs. We can still relate the interpretations to those given in section 4.3 and section 4.4. These examples highlight the fact that the role of the suffix in these instances is not as a valency increasing device but it encodes a different concept in terms of meaning from the base verb. Marten (1999, 2000) has referred to this as concept strengthening, since the concept addressed by the applicative verb seems much stronger than that addressed by the basic verb as will be seen in the next section.

What can be said about these examples is that the hearer/speaker knows that there is a difference in terms of the meaning encoded in the underived verb and that found in the applicative verb. The difference in meaning is that in (4.68a) the basic waking up is different from the waking up early, very early in (4.68b) resulting in a motive interpretation. The same is true in (4.69b) in which eloping is different

from running away (4.69a). Running away has no sense of direction for one can run away and come back, or run to anyway really but with elope, it means that the girl is found within a specific location, entailing also that there is a reason why the girl ran away, perhaps because she was pregnant or perhaps because she wanted to be with her boyfriend. Example (4.70a) is an instance of basic breastfeeding whilst (4.70b) is a special kind of breastfeeding since, the mother will be pregnant but will not be aware of it and she breast feeds a child unaware of her condition which has certain problems culturally, hence a maleficiary reading. These examples are good evidence to show that the applicative morpheme does not necessarily entail the addition of an extra argument.

Also we have the following instances:

(4.71) a. Ku-nze ku-ri ku-tonhor-a
17-outside 17-SM-AUX 15-cold-FV
'Outside it is cold'

b. Ku-nze ku-ri ku-ndi-tonhor-er-a
17-outside 17SM-AUX 15-1SG-cold-APPL-FV
'Outside it is refreshingly cold for me'

c. Ku-nze ku-ri ku-tonhor-er-a
17-outside 17SM-AUX 15-cold-APPL-FV
'Outside it is refreshingly cold'

(4.72) a. Mu-chi-mbuzi mu-ri ku-nhuw-a
18-7-toilet 18SM-AUX 15-smell-FV
'In the toilet it is smelling/stinking'

b. Mu-chi-mbuzi mu-ri ku-ndi-nhuw-ir-a
18-7-toilet 18SM-AUX 15-1SG-smell-APPL-FV
'It is stinking/smelling in the toilet for me'

c. Mu-chi-mbuzi mu-ri ku-nhuw-ir-a
18-7-toilet 18-SM-AUX 15-smell-APPL-FV
'It is smelling nice in the toilet'[16]

These examples besides showing that there is no valency change are cases in which the applicative suffix is associated with a different meaning from the corresponding non-applicative form. Though these lexical pairs seem to be differentiated by the presence of the applicative morpheme, they cannot be plausibly so analysed at least

[16]This inflected auxiliary VP is described as the present continuous.

synchronically, since the semantics of the applicative verb differs considerably from that of its apparent morphological base.

The data above shows the difference between the non-lexicalised and the lexicalised readings of *tonhora*, 'cold' and *nhuwa*, 'smell' respectively. In (4.71a), the intransitive form is used without any object, but in (4.71b) the applicative form is used with the additional benefactive object, *ndi*, 'me'. What is interesting though about this example is that it encodes a difference in meaning with the base form. These two forms encode a different concept, that is the non-applied form means that outside is cold yet when we have the applicative form, it is encoded as 'refreshingly cold'. Synchronically, if one has to feel the cold for someone, we assume that it has to be positive and that is why we have this positive reading. Similarly this reading is encoded when the applicative form is used in an equally intransitive form as the base form but encodes a different meaning as illustrated in example (4.71c).

(4.72a), 'nhuwa', 'smell' is used intransitively and when it is used in the applicative form it becomes transitive and hence introduces an extra object which given the context surrounding can be interpreted as a maleficiary object rather than a beneficiary (4.72b). The interpretation found within this applicative form is consistent with the non-applicative form in that it means that the toilet is stinking for me. This reading is idiosyncratic for one would have expected a positive reading as that encoded in the idiomatic reading. For if one wants to smell something for someone, one would expect a positive smell and not a negative one as encoded in the applied form. This reading though can be read as maleficiary. However, in its idiomatic form we find that we have a different meaning from that of the base form, 'smell nice' (4.72c).

The difference between the purely lexicalised forms and the semi-productive ones is that in the latter instance we can have a double applicative resulting in an additional object while in semi-productive ones, having double applicative morphemes result in a different concept. The interpretation in this case is what is referred to as the perfective extension in Chishona, encoding a strengthened concept, which, depending on the lexical verb semantics includes doing something thoroughly, completely or exhaustively as exemplified in (4.73) below:

(4.73) a. Mu-chi-mbuzi mu-ri ku-nhuw-a
18-7-toilet 18SM-AUX 15-smell-FV
'In the toilet it is smelling/stinking'

b. Mu-chi-mbuzi mu-ri ku-ndi-nhuw-irir-a
18-7-toilet 18SM-AUX 15-1SG-smell-PERF-FV
'It is smelling nicely,nicely in the toilet for me'

c. Mu-chi-mbuzi mu-ri ku-nhuw-irir-a
18-7-toilet 18-SM-AUX 15-smell-PERF-FV
'It is smelling nicely,nicely in the toilet'[17]

As can be seen from this perfective examples, there is no change in valency implied in contrast with (4.72b). Rather, there is an encodation of a semantic difference, in that in (4.73b-c) in contrast to (4.72b-c), there is a perfection to the verb being described. This is what happens with semi-productive lexicalised forms in contrast to purely lexicalised ones.

The examples above show that the applicative morpheme does not necessarily involve the addition of an extra argument. These lexicalised examples are important in showing us the semantic meanings associated with the applicative morpheme which is not necessarily derived from the additional object.

4.7 The semantic/pragmatic function of the applicative

While it is true that lexicalised verbs are not productive, it is important for any account of applicatives to take these idiomatic examples into account. These lexicalised forms must have been productive applicatives at some stage. It is true that in any derivational process words do shift in their meaning and become frozen forms as suggested by the process of lexicalisation. The reason why these have not been taken into account is because these examples do not provide evidence for the valency increasing role of the applicative. In other words, the prediction made by valency increasing theories are not borne out by lexicalised data. Because this prediction is not realised proponents of valency increasing theories have either concluded that these examples are idiomatic and therefore unanalysable or make an assumption that during the process of lexicalisation, the additional object disappeared (Marten (1999)).

In trying to incorporate lexicalised applied verbs in an account of applied constructions Marten (1999, 2000) develops an alternative hypothesis, which builds on the notion of concept formation. In particular, he explores the idea that applied verbs encode an explicit instruction for concept formation (Marten (1999:211)).

[17]This inflected auxiliary VP is described as the present continuous.

The underlying idea of this hypothesis is that applied verbs 'instruct a hearer to construct a concept which is sufficiently different from the concept that would be constructed from the base form in the given circumstances' (ibid). This process does not compare the two concepts (i.e. the base verb and the applied verb) rather it is a strengthening process of the concept addressed by the verb base plus the instruction that more contextual implications have to be derived. It has to be said that according to Marten (2000) the applied form encodes a different, 'stronger' concept, what he refers to as concept strengthening.

Contextual Concept formation

Concept formation is found within Relevance Theory (Sperber & Wilson (1995)), which is a theory that assumes that interpretation of natural language sentences is established in conceptual structure. The interpretation of an utterance includes its associated propositional form, a mental representation, which is established with recourse to pragmatic, conceptual reasoning (Marten 2000).[18]

In formulating his hypothesis, Marten (1999, 2000) takes the view that the eventual valency of a given predicate (verb) in context depends on the process of pragmatic enrichment (concept formation Carston (1996), Sperber & Wilson (1995) and Wilson (1999)) which gives the particular meaning of an utterance with recourse to lexical, world and contextual information. The underlying assumption of this view is that words do not address mental concepts directly, but encode an instruction to the hearer to construct a specific concept which is supposed to correspond closely to the speaker's intended meaning (Marten (2000)). He gives the following example from *eat* taken from Wilson (1999):

(4.74) Alan Jones: Do you want to join us for supper?
Lisa: No, thanks. I've eaten

In order to understand Lisa's utterance Alan has to enrich the concept of eating he has so that it means that Lisa has eaten not a long time ago and what she has eaten is sufficient enough food for her to be able to refuse Alan's invitation. Enriching concepts is driven by pragmatic principles, in particular the hearer's expectation of optimal relevance (Sperber and Wilson (1995)). The interpretation of verbs depends on information provided by other elements found within the clause as can be seen

[18]For more details on Relevance Theory the reader is referred to Sperber & Wilson (1995) and relevant literature found within.

in the different complementation patterns on the interpretation of the verb *open* and *cut* in the following examples taken from Marten (2000:7):

(4.75) *open the washing machine with a screw-driver*
open one's eye
open a bottle of wine with friends
open a bank account

(4.76) *cut grass with a lawn mower*
cut bread into slices
cut paper roughly
cut hair with clippers

The concepts addressed in these examples differ purely by recourse to the complements used. Having this as his background, Marten (1999) considers the Kiswahili lexicalised applied form *valia*:

(4.77) a. Juma a-me-va-a nguo za rasmi
Juma SCC1-PERF-wear-FV clothes GEN official
'Juma was wearing official clothes'

b. Juma a-me-val-i-a nguo za rasmi
Juma SCC1-PERF-wear-APPL-FV clothes GEN official
'Juma was dressed up (wearing official/formal clothes)'

The applied verb does not differ in valency from the base form in (4.77a). The contrast between these two sentences lies in the fact that two different concepts are addressed. The difference between (4.77a) and (4.77b) is that in (4.77a) the hearer is instructed to entertain the proposition that Juma was wearing official clothes while in (4.77b), the hearer is instructed not only to entertain the proposition that Juma was wearing official clothes, but to derive additional contextual effects such as, for example, that he had dressed with great care and effort. The difference between (4.77a) and (4.77b) is that a stronger concept is addressed in (4.77b), since typically the uses of *valia* have an object which denotes special clothes, rather than everyday clothing, which facilitate the derivation of additional contextual effects (Marten (1999)). Given this assumption and that it is correct Marten (1999) concludes that *valia* encodes a process of (former) conceptual enrichment vis-a-vis the base form. He assumes that before the form was frozen, it must have been an active form at one stage and hence encoded an instruction for concept formation. From this, he

then develops a hypothesis that this is the function of productive applied verbs within Kiswahili.

4.7.1 Applied verbs as an Instruction for Concept Formation

His hypothesis is that applied verbs instruct a hearer to strengthen the concept addressed by the base verb so as to derive sufficiently more inferential effects. He concludes that it is this instruction which is the basic unifying meaning of applied verbs. While the syntactic change of valency associated with applied verbs may count as concept strengthening, according to Marten (2000) the most important evidence comes from cases where applied verbs do not change the valency. In these instances, the function of the applied verbs can be analysed as concept strengthening or predicate emphasis (ibid).

Pragmatic conditioning

Marten (1999) noted above that *valia* prototypically is used with an object denoting 'special' rather than ordinary clothes and this he proposes facilitated the derivation of additional inferential effects. He makes similar observations with the productive use of the applied verbs. The set of data provided below focuses on non-benefactive applied verbs and sets out the pragmatic conditions associated with them as illustrated by Marten (2000)'s example (12) here given as example (4.78):

(4.78) a. Salma a-li-ka-a kiti-ni
Salma SCC1-PST-sit-FV chair-LOC
'Salma was sitting on a chair'

b. #Salma a-li-kal-i-a kiti
Salma SCC1-PST-sit-APPL-FV chair
'Salma was sitting on a chair'

c. Salma a-li-kal-i-a kiti cha uvivu
Salma SCC1-PST-sit-APPL-FV chair GEN laziness
'Salma was slouching/sitting in a comfortable chair'

The example in (4.78a) show an intransitive verb *kaa*, 'sit', with a locative marked adjunct *kitini*, 'chair (LOC)'[19]. In (4.78b) the applied verb *kalia* indeed adds on an additional argument *kiti*. What is important in these examples is the contrast

[19]Marten uses different morphological tags from mine and Bantu taggings in general and he follows Schadeberg (1992). SCC= SUBJECT CONCORD CLASS. Not that there is any real theoretical reasons for such naming.

between sentence (4.78b) and (4.78c). Both sentences according to Marten (1999, 2000) are grammatical but (4.78b) is, in neutral context, infelicitous, in contrast to (4.78c), which differs from (4.78b) in that a more specific object is used. In arguing for his hypothesis of concept strengthening he concludes that the interpretation of the data provided above, is that the object chair does not give enough contextual information to construct, in the absence of any other contextual information, a concept which is sufficiently stronger than the one constructed by *kaa* in (4.78a), since there is nothing particular about sitting, that is what normally happens. On the contrary, the object in (4.78c) provides enough information to construct a strengthened concept which may license additional contextual inference, the applicative verb is subject to pragmatic conditions, namely that the sitting is in some way special. In (4.78c) this is indicated by the complement *kiti cha uvivu*, 'easy chair', which enforces the interpretation of *kaa* as 'slouching, sitting in a relaxed manner' rather than simply sitting. The conclusion to be drawn from this is that not only do applied verbs introduce an additional object but are also subject to pragmatic licensing, they need enough contextual information so that a strengthened concept can be constructed.

Marten (2000) goes on to show that the same pragmatic effect of strengthening is found with instrumental applicatives as well. The important conclusion he draws from all this is that the use of the applied verbs is licensed by extra inferential effects derived from the predicate. Above all, the concept addressed by the applied verb has to be constructed as 'stronger' than the corresponding base verb.

He goes further and shows that productive applied verb formation do not necessarily require one more object than the corresponding base verb and he shows this with instrumental applicatives and locative applicatives. He provides the following data:

(4.79) a. Bi Asha a-li-andik-a barua kwa kalamu
Ms Asha SCC1-PST-write-FV letter with pen
'Ms Asha wrote a letter with a pen'

b. Bi Asha a-li-andik-i-a barua kalamu
Ms Asha SCC1-PST-write-APPL-FV letter pen
'Ms Asha wrote a letter with a pen'

c. Bi Asha a-li-andik-i-a barua kwa kalamu
Ms Asha SCC1-PST-write-APPL-FV letter with pen
'Ms Asha wrote a letter with a pen'

Example (4.79a) shows the *andika*, 'write', in its transitive form with one object and a PP, *kwa kalamu*, 'with a pen', while (4.79b) shows its applied version with two objects and (4.79c) is an applied form used in a transitive way in that it has one object and a PP. It is example (4.79c) which shows the dependency of valency changing in concept construction, under a syntactic analysis of applied verbs, example (c) should be ungrammatical. Both examples of applied verbs carry a specific instruction for concept formation; if, in a given context, the necessary additional context contextual effects can be derived without the information from the additional argument, no change of valency is necessary, as illustrated in (4.79c). If on the other hand, contextual effects are derived by including information from another argument, its introduction is licensed as in (4.79b). Thus, all the examples in (4.79), instruct the hearer to entertain the proposition that Bi Asha wrote a letter with a pen but (4.79b) and (4.79c) require the derivation of additional contextual effects. In (4.79b) this might include possible effects as Bi Asha did not use a typewriter while in (4.79c) potential contextual effects are that the letter is personal, or if the letter is long, must be painful (Marten 2000). This shows that beside encoding a syntactic change, applied verbs encode an instruction of concept formation, in particular the instruction to strengthen the concept addressed as to derive more contextual effects than licensed by the base form.

It is also true for locative expressions as illustrated below:

(4.80) a. Bi Asha a-li-andik-a barua meza-ni
Ms Asha SCC1-PST-write-FV letter table-LOC
'Ms Asha wrote a letter on the table'

b. ?Bi Asha a-li-andik-i-a barua meza
Ms Asha SCC1-PST-write-APPL-FV letter table
'Ms Asha wrote a letter on the table'

c. Bi Asha a-li-andik-i-a barua meza-ni
Ms Asha SCC1-PST-write-APPL-FV letter table-LOC
'Ms Asha wrote a letter on the table'

In example (4.80a) write is used transitively with an optional argument, prepositional phrase (PP), 'on the table'. The applied form is used with two objects in (4.80b), and note that *meza* is not marked with the locative suffix *-ni*. (4.80c) according to Marten (1999) is used with one object, thus providing evidence against a syntactic analysis of applied verbs as encoding a change in valency. The additional inferential effects in (4.80b) might include that the table cloth needs changing while

in (4.80c) include that Bi Asha did not write her dissertation but a letter on the table this time, or that she was writing very concentratedly or for a long time.[20]

The contribution of Marten's hypothesis is that the applied verbs can be used to express an instruction to the hearer to construct a concept which is stronger than could have been constructed from the corresponding base form. Moreover, this conceptual-pragmatic function is expressed to cover all forms of applicative verbs. This concept as can be seen from previous analyses is difficult to capture in a purely syntactic analysis. A theoretical issue brought out by his analysis of Kiswahili applicatives is that we can arbitrary concept strengthen any adjunct-looking like phrase and through this notion be able to internalise it. In the following section, I will apply the notion of concept strengthening to Chishona data and see if this hypothesis is plausible for our further understanding of applicative constructions.

4.7.2 The hypothesis of concept strengthening and Chishona applicatives

A criticism that can be levelled against Marten's hypothesis is that it is not precise enough. In other words, his concept of strengthening is too broad. Does it just strengthen the verbs involved, the whole predicate, the locative or instrumental involved? It seems to be too fuzzy a concept which needs to be specified further in order for it to be able to cater for Chishona data.

From his definition of concept strengthening, there is an implication that there is more emphasis on the base form's meaning, what he refers to as 'predicate emphasis'. That is, there is more reinforcement on the part of the base form when the applicative is present. In other words in his example of *vulia*, 'dress up well', there is still the underlying concept of wearing but because of the applicative we have a special kind of wearing as opposed to the normal wearing one. However, such an analysis will fall short with some Chishona data. Recall examples (4.71-4.72), repeated here as (4.81-4.82):

(4.81) a. Ku-nze ku-ri ku-tonhor-a
17-outside 17SM-AUX 15-cold-FV
'Outside it is cold'

[20]Marten (1999) does not consider locatives as noun phrases but treats them as prepositional phrases and in his analysis he maintains them to be optional arguments. I however will argue that these examples should be seen as valency increasing in the sense that we cannot optionally leave the locative argument out. In the context of the applicative verb, *meza-ni* is obligatorily subcategorised for. Also Marten (1999) himself notes that example (4.80c) is strongly preferred to example (4.80b).

b. Ku-nze ku-ri ku-tonhor-er-a
17-outside 17SM-AUX 15-cold-APPL-FV
'Outside it is refreshingly cold'

(4.82) a. Mu-chi-mbuzi mu-ri ku-nhuw-a
18-7-toilet 18SM-AUX 15-smell-FV
'In the toilet it is, stinking'

b. Mu-chi-mbuzi mu-ri ku-nhuw-ir-a
18-7-toilet 18SM-AUX 15-smell-APPL-FV
'It is smelling nicely in the toilet'

If it was really concept strengthening as implied by Marten, then in example (4.81) one might expect a reading of freezing cold instead of the opposite and in the stinking example, one will perhaps expect real, real stinking and perhaps not the opposite.

Interestingly, however, if these examples are analysed as in terms of valency increasing in which they can then they can easily be treated as concept strengthening. These examples have a hidden benefactive (Ronnie Cann pc):

(4.83) a. Ku-nze ku-ri ku-tonhor-a
17-outside 17SM-AUX 15-cold-FV
'Outside it is cold'

b. Ku-nze ku-ri ku-ndi-tonhor-er-a
17-outside 17SM-AUX 15-1SG-cold-APPL-FV
'Outside it is refreshingly cold for me'

(4.84) a. Mu-chi-mbuzi mu-ri ku-nhuw-a
18-7-toilet 18SM-AUX 15-smell-FV
'In the toilet it is, stinking'

b. Mu-chi-mbuzi mu-ri ku-ndi-nhuw-ir-a
18-7-toilet 18SM-AUX 15-1SG-smell-APPL-FV
'In the toilet, it is stinking for me'

Synchronically, it is possible to analyse example 4.83 in that, if one goes out on a cold day for example, and feels the cold for someone, one expects a positive feeling. However, example 4.84 cannot be so analysed since we have a horrible smell. What is interesting about this example is that the same meaning of the base verb is maintained though one would have expected a change in meaning, a stronger concept of stinking according to Marten.

Further examples to consider include:

(4.85) a. Patrick a-ka-zvuv-a mw-ana mu-gomba
1a-name 1SM-PST-pull-FV 1-child 18-5-hole
'Patrick pulled a child from a hole'

b. Patrick a-ka-zvuv-ir-a mw-ana mu-gomba
1a-name 1SM-PST-pull-APPL-FV 1-child 18-5-hole
'Patrick pulled the child into the hole'

(4.86) a. Ramos a-ka-w-a mu-mu-ti
1a-name 1SM-PST-fall-FV 18-3-tree
'Ramos fell from a tree'

b. Ramos a-ka-w-ir-a mu-ti
1a-name 1SM-PST-fall-APPL-FV 3-tree
'Ramos fell onto a tree'

Since (4.85-4.86a) have a source interpretation given "predicate emphasise" one will expect it to encode a reinforced source relation but as can be seen from the above there is an emphasis on a goal relation.

However, it is true that his explanation accounts well for the following examples:

(4.87) a. Mhunga a-no-muk-a
1a-name 1SM-PRE-wake up-FV
'Mhunga(a bus) leaves early in the morning'

b. Mhunga a-no-muk-ir-a
1a-name 1SM-PRE-wake up-APPL-FV
'Mhunga(a bus) leaves very, very early in the morning'(a special kind of waking up)

(4.88) a. Mu-sikana a-ka-tiz-a
1-girl 1SM-PST-ran away-FV
'The girl ran away'

b. Mu-sikana a-ka-tiz-ir-a
1 girl 1SM-PST-ran away-APPL-FV
'The girl eloped'(a special kind of running away)

(4.89) a. Pio a-ka-yamw-a
1a-name 1SM-PST-drink-FV
'Pio breastfed'

b. Pio a-ka-yamw-ir-a
1a-name 1SM-PST-drink-APPL-FV
'Pio breastfed whilst his mother was pregnant' (a special kind of breastfeeding)

In all these examples at least, we find that the applicative forms encode a special meaning. For example in (4.87a) entails general leaving of a bus, a reasonable time at most, yet the applicative form encodes a special leaving, that is very very early. In example (4.89a), there is the encodation of a general breastfeeding but in the applicative form it means more, its a special kind of breastfeeding which has some cultural significance. These examples are therefore true to a certain extent to the analysis provided by Marten (1999, 2000)[21].

As the examples show, what is happening within Chishona data is not just basic concept strengthening as suggested by Marten, but strengthening of the goal relation that the applicative suffix introduces. Concept strengthening is not random or whimsical but is motivated within Chishona context. Marten's theory of concept strengthening is very general in that we can concept strengthen anything really. This implies that any adjunct constructions can be internalised. However, this is not true when we take manner adverbial clauses into consideration.

(4.90) a. Mayi va-ka-gez-a mw-ana (va-chi-nonok-er-a)
1a-mother 2aSM-PST-bath-FV 1-child 2aSM-FUT-slow-APPL-FV
'Mother bathed the child slowly'

b. *Mayi va-ka-gez-er-a mw-ana va-chi-nonok-er-a
1a-mother 2aSM-PST-bath-APPL-FV 1-child 2aSM-FUT-slow APPL-FV

(4.91) a. Pios a-ka-nw-a doro (a-chi-kurumidz-a)
1a-name 1SM-PST-drink-FV 5-beer 1SM-FUT-hurry-FV
'Pios drank beer in a hurry'

[21] This issue of encoding an event as special as opposed to a general one is not restricted to verbs only. It can also be found within the noun classification system. Within Chishona general nouns, for example, that refer to people like woman, man, girl, boy are all found in class1. However, when one wants to talk about special attributes for instance of women, lets say that the woman is big, we find a word like *gadzi*, 'a big woman'in class 5 or a sickly looking man , we find it in class 11 and have the word *rurume*. If someone wants to talk about someone who is deaf and dumb, we find *matsi* in class 9 and we find a disabled person classified in class 7 as *chirema* and an obstinate child is found in class 9 as *nhinhi*. This shows when one wants to talk about a special person one accesses this information from a different class from that class that encodes general properties of being a person. Thanks to Anne Jefferies for pointing this out to me.

b. *Pios a-ka-nw-ir-a doro a-chi-kurumidz-a
1a-name 1SM-PST-drink-APPL-FV 5-beer 1SM-FUT-hurry-FV

Moreover, we cannot have instrumental applicatives in Chishona. The reason is that in Chishona the applicative suffix brings with it a goal relation which constrains the ultimate interpretation. This shows that what is happening within Chishona data is not just basic concept strengthening as suggested by Marten, but strengthening of the goal relation that the applicative suffix introduces. There is more 'narrow focus on the goal' that comes along with the applicative. Thus in Chishona, applicative suffix is constrained to introduce a *generalised goal* argument.

4.8 Summary and Conclusion

In this chapter, I have argued for a unified treatment of the different instantiations associated with the applicative verb constructions in Chishona. Accounting for the different interpretations of the applicative suffix has provided strong evidence for a semantic/pragmatic coherence of the applicative suffix, a coherence hitherto not recognised in the Bantu linguistic literature. This chapter has made an important contribution to the general understanding of applicatives in Chishona and applicatives in general and that is all applicatives found in Chishona are derived from a single semantic basic meaning: an underspecified (polysemous) generalised goal relation. The distribution of the various interpretations was captured by a simple assumption that the introduced argument has an underspecified semantic content.

The hypothesis has been reached by showing how the different meanings of -r- are related, with the apparent semantic diversity of productively formed applicative derivatives which turned out to be a case of polysemy not homonymy. It has been shown that the different instantiations are a result of the semantics of the predicate, the semantics and properties of the applied object and extra inferential context.

Section 4.2 was a brief introduction which showed how interpretations of the applicative suffix using a single lexical verb can vary from context to context. This section gave a precedence to show how the actual interpretation between the applied object and the predicate is determined by the semantic properties of both the applied object and the predicate and pragmatics of the whole clause.

The rest of the chapter has shown how the various meanings associated with the construction are systematically related and how the semantics of the verb and the

properties of the applied object determine which actual interpretation is specified in that particular context. Section 4.3 gave results of four different interpretations: beneficiary, maleficiary, motive and goal. These are analysed as the four basic canonical instances of applicative constructions. I described the motivation behind seeing the four as being related, hypothesised and showed how a Chishona applied object is constrained to be interpreted as a *generalised goal.* This was done first by showing how the beneficiary (the typical applicative interpretation) is related to the maleficiary role. I concluded that the two are an instantiation of one macrorole— the 'adficiary'— and that what differentiates these two is whether the predicate is negative or positive. If it is positive then it has a beneficiary reading and if it is negative it has a maleficiary reading. The next step was to show how the adficiary is related to the motive. In this case abstracting from everything else we concluded that both the adficiary and the motive are instantiations of an intended or potential goal. I then concluded by showing that all these examples are some sort of a GOAL and hence the goal role fitted in this hypothesis. The difference is that the goal interpretation is a specification of a true goal while the others are a reflection of potential goals. Giving a GOAL interpretation to the applied object depends on extra contextual factors, the nature of the predicate, the semantics of the applied object and the properties associated with the AO. This section showed further that we have two different grades of the goal relation: (i) a goal relation that denotes the relation between the AO and the event denoted by the verb and (ii) the relation between the AO and the logical object of the verb.

Section 4.4 focused on the other types of applicative which do not on the surface show a goal relation that easily as the others. The two types analysed in this section were the source and locatives and it was shown that the function of the applicative suffix in these context is related to a discourse nature. The two were concluded to be instantiations of a locative relation.

Section 4.5 incorporated locative type applicatives into the main hypothesis of the thesis. This was done by concentrating on the function of the applicative suffix in these contexts. The suffix in this context was seen further as a focusing device and shown by the question-answer pair test. The aim of these tests was to show the goal of a speech act. It was concluded that answering with an applicative construction highlighted the fact that the speaker had the intention of highlighting the locative relation that he/she was describing in his speech act. In other words the applicative construction highlighted the discourse goal of the whole speech act by focusing/highlighting the applied object. By perceiving applicative constructions as

involving emphasis or focusing the AO in some way gives rise to the interpretation of locative examples as involving *the actual location of an event* **at** *the* AO, since the event is said to be located/being emphasised on the applied object. What is being focused on in such constructions is the action taking place at the applied object (*locative*) or the action originating from an applied object (*source*). This resulted in the conclusion that we have two types of *generalised goal*, DISCOURSE GOAL and an EVENT GOAL. Such a conclusion is motivated by the data observed.

Given the above means that we have three grades of the generalised goal relation in Chishona: (1) the relationship that exists between the event and the applied object-it is from this relationship that we can get an instantiation of the goal as beneficiary, maleficiary, motive or goal (2) the relationship between the applied object and the logical object as in some instances of beneficiary and true goals and finally (3) the relationship between a speech act and the applied object as in locatives and sources.

Finally, section 4.6 addressed applicative constructions which do not encode a change in valency. Under this section I analysed Marthen's hypothesis of concept strengthening which he puts forward in order to analyse similar data and productive applicative constructions in Kiswahili. What is important about these lexicalised forms is the fact that they need to be seen as being productive at one stage, hence the need to incorporate them in any analysis of applicatives. Besides the lexicalised forms, the theory he puts forward also caters for productive applicatives. However, as shown by Chishona data the notion he puts forward of concept strengthening is too broad for it seems that if you can strengthen anything really, any form of adjunct could be internalised. Given the lack of instrumental applicatives and manner applicatives in Chishona, I showed that this concept is too broad. I showed that for Chishona the notion of concept strengthening entails a restriction to a *goal* argument. The new argument introduced is restricted to having a goal interpretation. Applicative constructions in Chishona are constrained to narrowly focus on a goal by either focusing/emphasising the goal as in locative and source applicatives, or unifying with the goal argument and strengthening it as in goal applicatives, or supplying a goal applied object for verbs of motion, otherwise the goal is interpreted as adficiary or motive depending on the semantics of the applied object and the verb.

Traditional analysis have treated applicative constructions as unrelated phenomena. But as this chapter has shown, treating applicative constructions as discrete elements misses significant generalisations. One such important generalisation is that all the applicative suffixes found in Chishona share a common underlying semantic relation. Treating applicatives as discrete will be side-stepping the issue of

relatedness. The different interpretations associated with the applicative suffix in Chishona are related in the sense that they share a common semantic structure.

Chapter 5

HPSG Theoretical Framework

5.1 Introduction

The purely syntactic analyses proposed by transformalists and lexical functional grammarians generally result in analysing applicative verb constructions as homonymous in nature, a position that leads to a large amount of redundancy and misses significant generalisations. In order to avoid grammatical redundancy and capture the morphosyntactic similarities between the different types of applicatives, this thesis has postulated that the different patterns and interpretations of the applicative construction are not distinct but result from polysemous extensions of a basic construction. In other words, when one studies applicative constructions one needs to take into consideration both their syntactic and semantic functions. To address such issues, linguistics and computational linguistics have developed theoretical systems which accommodate both syntactic and semantic information about a word. As a model of analysis, I adopt the theoretical framework of HEAD-DRIVEN PHRASE STRUCTURE GRAMMAR (HPSG), a lexicalist (word driven) grammatical framework, as developed by Pollard & Sag (1987,1994) and Sag & Wasow (1999), which accommodates both syntactic and semantic information about a word using well-defined feature structures and a type hierarchy in constructing the lexicon. The approach taken in this thesis will build on **type hierarchies** and **constraints** in order to achieve maximum generality in the explanation of data to be analysed here.

In this chapter, I introduce the most important concepts on which I will build an analysis of the applicative construction in Chapter 6. HPSG is a type of non-transformational grammar formalism. The most well known of these also include the phrase structure formalisms of Functional Unification Grammar (FUG, Kay (1984))

and Generalised Phrase Structure Grammar (GPSG, Gazdar, Klein, Pullum & Sag (1985)). The common motivation of these formalisms is for linguistic descriptions to have a clear declarative meaning formally well specified features and only one level of structure.

The fundamental characteristics of these formalisms is that they are surface-based, declarative and complex feature based. **Surface-based** entails that they provide a direct characterisation of the actual surface order of the sentence, being **declarative** defines what associations between strings and information elements are possible and **complex feature based** is taken to mean that the association between features and values are taken from well-defined, possibly structured sets (Shieber1986). Complex features are also referred to as *feature structures* and are used as the basic unit for carrying information within these formalisms, as they encode lexical and phrasal information of the grammars.

These formalisms utilise the combining operation of *unification* on feature structures. Unification is a structure preserving operation in which the information contained in two feature structures is combined. Feature structures within HPSG are *typed* and carry all the information regarding the structure of linguistic descriptions.

The rest of the chapter is organised as follows: Section 5.2 gives a brief introduction to HPSG, focusing on the basic architecture of signs and the lexicon. After this brief introduction, section 5.3 implements some of the important ideas introduced on Chishona data. Special emphasis will be on the constraints in relation to the multiple inheritance hierarchy associated with the Chishona lexicon. Since HPSG is a syntactic theory, Section 5.4 focuses on how words combine to form phrases. Section 5.5 summarises this chapter.

5.2 Head-driven Phrase Structure Grammar

Head-driven Phrase Structure Grammar (HPSG) [1] can be characterised as a constraint-based theory of grammatical competence. All of its representations are partial descriptions of (i.e.constraints on) feature structures—the most important construct used to model linguistic entities (Miller & Sag (1997)). HPSG linguistic descriptions are order-independent, hence assume that grammars consist of an interacting collection of simple and general constraints. According to Przepiorkowski (2000), HPSG grammars are assumed to consist of a *signature* and a *theory*. The theory is simply

[1] Pollard & Sag (1987) , Pollard & Sag (1994) and Sag & Wasow (1999)

a specification of a set of constraints which all objects found in an HPSG grammar must simultaneously satisfy, thus the definition of HPSG as constraint-based declarative formalism. The signature on the other hand, makes ontological assumptions explicit, by stating what types of objects there are (eg, verbs, adjectives, quantifiers) and what features they may have. So the remainder of this section is a detailed analysis of the two concepts, *signature* and *constraints* .

5.2.1 The architecture of signs

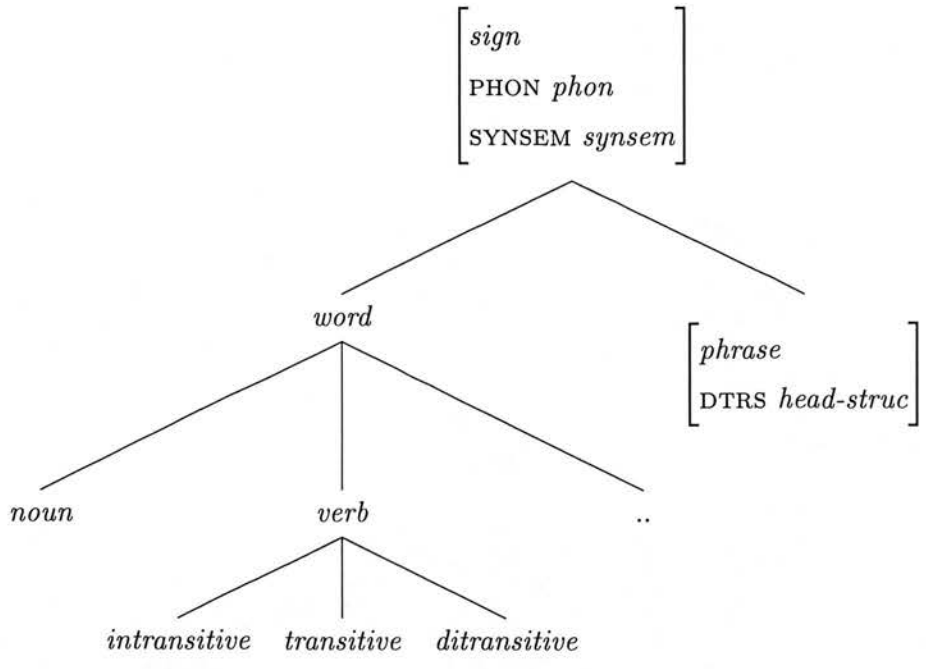
Formal characteristics of HPSG

The basic unit of linguistic analysis within HPSG is the type, *sign*[2], conceived as a structured complex of phonological, syntactic, semantic and discourse information. *Signs* within HPSG at minimum possess two attributes PHON (Phonology) and SYNSEM (syntax and semantics). The PHON attribute is assumed to be some kind of feature representation of the sign's sound content that serves as the basis for phonological and phonetic interpretation. This thesis is not concerned with the phonology of Chishona so whenever the PHON feature is used it is used only to identify the orthography of the word. The SYNSEM feature includes a complex of linguistic information that is distributed among the two attributes syntax and semantics. This is the attribute in which information that has to do with the sign's subcategorisation potentiality is found. I now turn to the linguistic significance of the different substructures contained within feature structures.

Before explicating the notions such as SYNSEM any further, I digress briefly to make clear certain formal points about feature structures employed in this theory. The first point to note about feature structures is that all feature structures employed in HPSG are *typed.* This means that feature structures are labelled with a *type symbol* that tells what type of object the structure is modelling. According to Pollard & Sag (1994), all type symbols are assumed to be partially ordered, with type symbols corresponding to more inclusive types lower in the ordering (pg:18). For example, the basic linguistic object in HPSG is the type *sign.* This type can be partitioned into two incompatible subtypes *phrase* or *word.*

[2] *Signs* are roughly understood in the Saussurean sense. The only difference is that signs utilised in HPSG are more complex in that they also encode information that has to do with the syntactic aspects of a word, and not just meaning and phonology as is prototypical for de Saussure (1916)

(5.1)



Grammar within HPSG is defined as a set of constraints on the organisation of features in a feature structure (which feature is relevant in a feature structure in a language) and on the appropriate values for these features. The constraints of the grammar are imposed on types. For instance, according to Sag (1997) *verbs* in English are subject to the following constraints:

(5.2) $\textit{verb} \longrightarrow \left[\text{SUBJ} \left\langle \text{NP} \right\rangle\right]$

This constraint states that a *word* of type *verb* has a subject. Constraint (5.3) states that a *transitive verb* has, at least, one object appearing in its list of complements (COMPS):

(5.3) $\textit{transitive verb} \longrightarrow \left[\text{COMP} \left\langle \text{NP} \right\rangle\right]$

While a *ditransitive verb* has the following constraint:

(5.4) $\textit{ditransitive verb} \longrightarrow \left[\text{COMP} \left\langle \text{NP}, \text{NP} \right\rangle\right]$

On the contrary, an *intransitive verb* takes no object (its COMPS list is empty) as declared in (5.5):

(5.5) *intransitive verb* $\longrightarrow \left[\text{COMP } \langle\rangle\right]$

In addition to such constraints, there is need for other declarations in order to formulate the *type* system into the grammar. One is an appropriateness condition stating that all feature structures should be *well-typed.* Linguistic expressions within HPSG are grammatical if they are modelled by feature structures which are *totally well typed* and *type resolved.* A *feature structure* is *well typed* if it has the feature attributes appropriate for its type. A feature structure is *totally well typed* if the appropriate feature for each node is present. A *feature structure* is *type resolved* if it is *totally well typed* and , moreover, every attribute takes as its value the maximum type that is appropriate for that attribute. This implies that partial/underspecified feature structures do not describe to grammatical linguistic expressions. However, they are frequently used in the formulation of constraints.

The set of all *type* symbols is defined to be partially ordered and they construct a *type hierarchy. Type hierarchies* are organised in such a way that subtypes inherit the feature declarations of their supertypes. For example, since *word* is a subtype of *sign*, this type inherits all the constraints that its supertype *sign* carries, in addition to its own constraint. This in turn means that the object *word* minimally has PHON and SYNSEM attributes, inherited from its supertype *sign.* This also means that the three types of *verbs* , *transitive, ditransitive* and *intransitive* inherit the constraint in (5.2) from their supertype *verb.* This means that a *type* determines what kind of attribute or feature label the feature structure of the type can have. The mechanism of constraints on feature structures will ensure that each well-defined type is associated with a specific feature structure. For instance, the type *sign* is declared to have the feature structure given in (5.6)

(5.6)
$$\begin{bmatrix} \textit{sign} \\ \text{PHON } (\textit{list}) \\ \text{SYNSEM } \left\langle \textit{synsem} \right\rangle \end{bmatrix}$$

This says that objects of type *sign* must have the attribute PHONOLOGY and SYNSEM. These two mechanisms, type hierarchy and feature constraints, predict that a type will inherit the feature declarations of its supertypes. For example, since a *word* is a subtype of *sign*, this type will inherit all the constraints that its supertype, *sign* carries in addition to its own constraint. This in turn means that

linguistic objects of type *word* will minimally have PHON and SYNSEM attributes inherited from their supertype *sign*. Such mechanisms provide ways of eliminating redundancies in lexical entries, since types in a given hierarchy hold subsumption relations and immediate level constraints/generalisations are expressed where relevant.

Two distinct paths in a feature structure can lead to one and the same node. This is called *structure-sharing*. This notion is very important as the sections to follow will show.

A final formal point to note is that for some types, no attribute labels are appropriate. Such types are called *atoms* (Pollard & Sag 1994:19). Examples include *number (num)* and its subtypes *singular (sing)* and *plural (pl)* and *gender (gen)* and its subtypes *feminine, masculine* and *neuter*.

Signs are modelled by *feature structures* which, by convention, are displayed in the form of the ATTRIBUTE VALUE MATRICES (AVM) as in (5.7) (Pollard & Sag (1994) and Sag & Wasow (1999)). Current work within HPSG entertains the hypothesis about the internal structure of signs such as the one sketched in (5.7) which I will assume in this thesis:

(5.7)

$$\left[\begin{array}{l} \textit{sign} \\ \text{PHON}\boxed{1}\ \textit{phon-form} \\ \text{MORPH-B}\left[\begin{array}{l}\text{PHON}\boxed{1}\\ \text{SS}\ \boxed{2}\end{array}\right] \\ \text{SYNSEM}\boxed{2}\left[\begin{array}{l}\textit{synsem} \\ \text{LOCAL}\left[\begin{array}{l}\textit{local} \\ \text{CAT}\left[\begin{array}{l}\text{HEAD}\ [\ ] \\ \text{VAL}\left[\begin{array}{ll}\text{SUBJ} & \textit{list}\langle\,\text{SYNSEM}\,\rangle \\ \text{SPR} & \textit{list}\langle\,\text{SYNSEM}\,\rangle \\ \text{COMPS} & \textit{list}\langle\,\text{SYNSEM}\,\rangle\end{array}\right]\end{array}\right] \\ \text{CONT}\ \textit{content} \\ \text{CONX}\ \textit{context}\end{array}\right] \\ \text{NONLOCAL}\textit{nonlocal}\end{array}\right]\end{array}\right]$$

Not only words, but phrases too are treated in terms of such feature structures, whose precise nature is guaranteed by the constraints of the grammar. In (5.7), for example: (1) the HEAD value specifies part of speech and other information that a word shares with the phrases it projects; (2) the syntactico-semantic complexes called *synsem* objects contain the information that is selectable by a given head (part of speech, agreement properties, subcategorisation information, semantic content and so on), (3) the attribute MORPH-Base, encodes all the affixation mechanisms found in Chishona morphology. The morphological base is the basic stem or root (without any inflection or derivation processes) depending on one's morphological orientation. Detailed properties of the sign is given in the following section.

In this AVM , the attributes PHONOLOGY (PHON), MORPHOLOGICAL-BASE (MORPH-B), SYNTAX-SEMANTICS (SYN-SEM) take as their values feature structures that encode information about the phonological, morphological and syntactic-semantic features of an expression. The following matters of notation need to be explained with respect to AVM descriptions like (5.7). By convention, sortal labels are indicated by *italics* inside the feature structure (here, top left). The feature structure in (5.7) illustrates the structure *sign*. Structure sharing is indicated by multiple occurrences of boxed numerals called *tags*, for example $\boxed{2}$. In (5.7) for example $\boxed{1}$ indicates that the phonological content of the *sign* is structure-shared with that found as an attribute of the MORPH-B feature. Descriptions of lists are usually abbreviated by the use of angle-bracket notation, with $\langle\ \rangle$ describing an empty list. Throughout small capitals will be used for ATTRIBUTES in feature structure and italics will be used for *typed feature structures.*

5.2.2 Morphology and the lexicon

Feature structures in Lexical entries

Now I explain the significance of feature structures and the various substructures in relation to linguistic data. We first consider the lexical entry of the Chishona *word*, *bvarura*, 'tear'.

(5.8)

$$\begin{bmatrix} \textit{word} \\ \text{PHON } \boxed{1}\langle \textit{bvarura} \rangle \\ \text{MORPH-B } \langle \begin{bmatrix} \textit{trans-stem} \\ \text{PHON } \boxed{1} \\ \text{SS } \boxed{2} \end{bmatrix} \rangle \\ \text{SYNSEM|LOCAL}\boxed{2} \begin{bmatrix} \textit{local} \\ \text{CAT | VALENCE} \begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ}\langle \text{NP}_{\boxed{3}} \rangle & \\ \text{OBJ } \langle \text{NP}_{\boxed{4}} \rangle & \end{bmatrix} \\ \text{CONT|NUC} \begin{bmatrix} \text{RELN} & \textit{tear} \\ \text{ARG1} & \textit{index} \\ \text{ARG2} & \textit{index} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

First, note that the feature structure above is of type *word*. As has been mentioned, the form **bvarura** is simply an orthographic representation of the corresponding lexical item. The two occurrences of $\boxed{1}$ tells us that the *word* phonological value and that of the *morph-b* phonological value must be unified (which amounts to simple identity of atomic values in this case). The feature MORPH-B includes morphological objects that have word internal structures. It contains the stem which is made up of the PHON and the SYNSEM values.

Now let us consider the different types in detail, beginning with the type *loc* that lies at the end of the path SYNSEM|LOC. As shown in figure 5.7 this type has three attributes CATEGORY (CAT), CONTENT (CONT) and CONTEXT (CONX), corresponding to morphosyntax (CAT), the morphology and syntactic category of the word in question as well as the grammatical arguments it requires, semantics (CONT) and aspects of pragmatics (CONX). Moreover, each of *phon, category, content, context* and *nonlocal* has its own structure.

Here the CATEGORY value includes not only the syntactic category of the word in question but also the grammatical arguments it requires. The CATEGORY value is an object of type *category (cat)*, and it contains the two attributes HEAD and VALENCE. The value of HEAD roughly speaking is its part of speech which in (5.8) is *verb*. As will be discussed in section 5.4 one of the universal grammar principles

of HPSG (the Head Feature Principle) requires that the value of HEAD of any sign is always structure-shared with that of its phrasal projections. Appropriate values for the attribute HEAD are objects of type *head*, sorted according to the following hierarchy in figure 5.1:

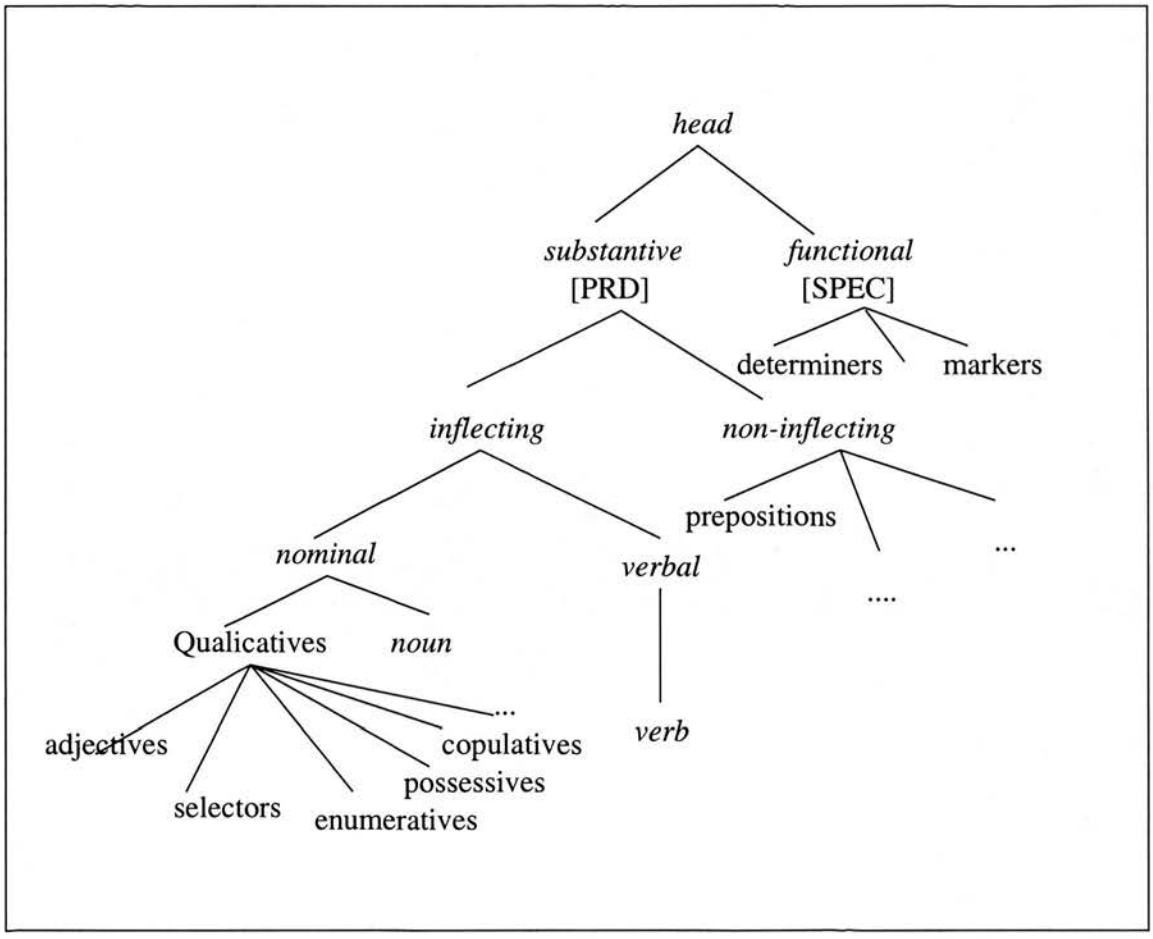
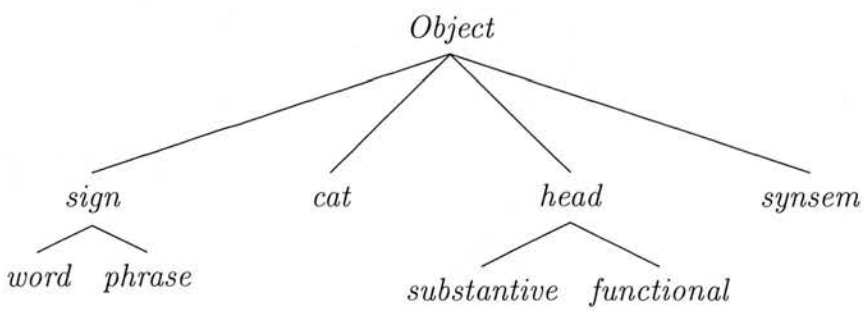


Figure 5.1: Head hierarchy

Figure (5.1) gives a general hierarchy of the *head* type of Chishona. The *head* feature can be either *substantive* or *functional.* Functional types denote determiners and markers and this thesis does not focus on them. The substantive type introduces the boolean feature PRD and this specifies whether a sign can appear in a predicative position and the MOD which is a modifier and has as its value an object of type *synsem.* Modifiers will not be of interest here. The substantive type generally refers to the traditional parts of speech.

Objects of the type *substantive* are divided into non-inflecting which is further partitioned into prepositions and so on and the inflecting type contains the other parts of speech, verb noun and adjective. Note that this list is not exhaustive for the type *noun* for example has certain features such as *index* associated with it. Moreover, the type noun has its own types. Note that the *head/part of speech* hierarchy (Alexopoulou (1999)) is distinct from the *word* hierarchy in (5.1). As proposed by Pollard & Sag (1994), *word* and *head* are subtypes of *object* as shown in (5.9):

(5.9)



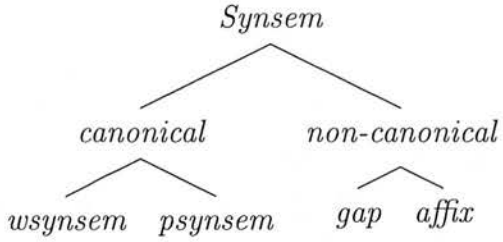
The VALENCE attribute specifies what other signs the sign in question must combine with in order to become *saturated.* This attribute contains information corresponding to the SYNSEM values of the other signs selected as complements by the sign in question. The architecture of sign given in (5.7) with the lexical entry in (5.8) differs from that of Pollard & Sag (1994) HPSG in that the VALENCE attribute is encoded by means of three features dominated by VAL attribute. The feature VALENCE represents combinatory potential of the *sign* (its subcategorisation properties) [3]. The SUBJ list may contain at most one element. In the sign to be adopted in this analysis I have the feature OBJ instead of the COMPS (complements) as in standard HPSG signs. I will be differentiating the COMPS list into OBJ (object) and

[3]For my valence list though I will not include the SPR feature as nothing in the current analysis require such an object

OBL (Oblique) since as discussed in Chapter 2, within multiple object constructions in Chishona the objects cannot be distinguished syntactically from each other in the general case.[4]

The arguments of the verb may be realised in different ways. Variations exist with respect to argument drop(PRO DROP), extraction, and more important for this thesis, pronominal affixation. In order to guarantee the presence of appropriate affixes in the phonological form of pronominalised words, this analysis relies on the assumption that*Synsem* objects are partioned with respect to their canonicality as illustrated by the following hierarchy taken from Miller & Sag (1997):

(5.10)



The type *canonical* has two subtypes *wsynsem* (word level) and *psynsem* (phrase level). In this section I will discuss the type *wsynsem* and then the type *psynsem* will be discussed in section 5.4. NPs of synsem type *canonical* correspond to overtly expressed NPs, present in the OBJ list as exemplified by the following rule for a transitive verb which requires all its arguments to be overtly realised, that is specifying which arguments a given head combines with locally as given in the Argument Conservation Rule of Miller & Sag (1997) illustrated below:

Argument Conservation Principle

(5.11)

$$word \Rightarrow \left[\text{SYNSEM|LOC|CAT} \left[\text{VAL} \left[\begin{array}{l} \text{SUB} \left\langle \boxed{1} \right\rangle \\ \text{OBJ} \left\langle \boxed{2} \right\rangle \end{array} \right] \right] \right]$$

Non-canonical objects on the other hand, correspond to cases when arguments are not overtly expressed. The *non-canonical* type is in turn divided into *gap* and

[4]This differentiation is done since complements is an open ended notion in the sense that non-noun phrases can be seen as complements.

affix. *Gaps* are relevant to accounts of extraction, where it is assumed that a gap is left in the OBJ list. *Affixes* on the other hand, are relevant to accounts of object pronominalisation, where it is assumed that the OBJ list is reduced in valence. Thus in this thesis I analyse pronominal affixation all in terms of arguments that are absent from any valence list (see chapter 6 for more details).[5]

The LOCAL attribute in addition to the category of head and valence structure, encodes information about the semantics and some aspects of its contextual function. The information is represented in the values of the attributes CONTENT and CONTEXT which specifies the sign's contribution to semantic interpretation, especially with respect to matters of reference (Pollard & Sag (1994:22)). CONTEXT is employed for the representation of information structure. The semantics of a word is encoded in its CONTENT field, including quantificational and non-quantificational (nuclear) material. Each verb expresses a unique relation with one, two or three arguments and an argument can be nominal, verbal or a complementiser phrase. In Pollard and Sag (1994), the semantic roles defined by a relation are defined under the *nucleus* feature. Rather than defining a small set of thematic roles, Pollard and Sag as well as Sag & Wasow (1999), treat every set of semantic roles as being unique to the particular relation defined by the verb. As a transitive verb, *bvarura* is a two place relation with two arguments ARG1 and ARG2 which are two participants underspecified for the roles tearer and torn:

(5.12)
$$\left[\text{CONT}\left[\text{NUC}\begin{bmatrix}\text{RELN} & \textit{tear}\\ \text{ARG1} & [\textit{index}]\\ \text{ARG2} & [\textit{index}]\end{bmatrix}\right]\right]$$

The arguments are the *indices* of *nominal objects* structure-sharing the valence list arguments, a canonical list of subject and objects. In order to understand the function of the index a digression is needed here to consider the internal structure of a noun. In general, a noun does not project any arguments, so its SUBJ and OBJ lists are empty. In Pollard and Sag (1994), the CONTENT value of a noun includes an *index*, and it is this value that is structure shared with the verb when the two items combine together, since it contains agreement features. The *index* value, a structure

[5]Argument drop and extraction are also analysed in terms of arguments that are absent from the valence list. See Miller & Sag (1997)

of type *index*, should be thought of as the HPSG analog of a reference marker in discourse representation theory(DRT: Kamp (1981)) (Pollard & Sag (1994:23)). Chishona nouns in this thesis have the following internal structure as shown by the noun *hari*, 'clay pot':

(5.13)

$$\begin{bmatrix} \text{PHON } \textit{hari} \\ \text{SYNSEM|LOCAL} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{noun} \\ \text{AGR}\boxed{4} \begin{bmatrix} \text{PER} & .. \\ \text{CM} & .. \end{bmatrix} \end{bmatrix} \\ \text{SUBJ } \langle\rangle \\ \text{OBJ } \langle\rangle \end{bmatrix} \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{MODE} & \textit{ref} \\ \text{INDEX } \boxed{4} \begin{bmatrix} \text{PER} & .. \\ \text{CM} & .. \end{bmatrix} \\ \text{RESTR } \langle \begin{bmatrix} \text{RELN} & .. \\ \text{SIT} & s \\ \text{INST} & \boxed{4} \end{bmatrix} \rangle \end{bmatrix} \end{bmatrix}$$

The aim of the semantic description in CONT is to

- represent the meanings of words
- show how the meaning of a phrase is derived from the meanings of its parts
- show the conditions under which the proposition expressed by an utterance is true

CONT is made up of three features:

MODE indicates the basic semantic type of the expression: proposition, question or directive for sentences (and their VP heads); reference for NPs; none for other categories.

INDEX corresponds to the situation or individual referred to in the event being described

RESTR specifies the conditions under which the expression can be applied to a situation or individual—a set of PARAMETRISED STATE OF AFFAIRS (PSOA):
– RELN the relation expressed (i.e.the arguments that define the PSOA)
– SIT an index corresponding to the situation
– INST the participants of the relation indicated by index letters

Sag & Wasow (1999:106-107)

The value INDEX for Chishona as can be seen from example (5.13) has two agreement features PERSON (PER), CLASS MARK (CM). Two nominals are said to be coindexed if their indices are token-identical (structure-shared).

The lexical entry for *mukomana*, which in Chishona is found in class 1, thus being singular and third person will be:

(5.14)
$$\begin{bmatrix} \text{INDEX } \boxed{3} \begin{bmatrix} \textit{index} & \\ \text{PER} & \textit{3rd} \\ \text{CM} & \textit{1} \end{bmatrix} \\ \text{RESTR } \left\langle \begin{bmatrix} \text{RELN} & \textit{boy} \\ \text{INST} & \boxed{3} \end{bmatrix} \right\rangle \end{bmatrix}$$

The importance of the restriction value is that when the word *mukomana* is used referentially (eg in a referential use of a phrase *mukomana*, 'a boy', the index $\boxed{3}$ introduced by that use must be anchored to an entity that renders each PSOA in the set factual; that is, the *index* must be anchored to a boy. Information internal to indices can also be abbreviated. As in the above example, $\text{NP}_{\boxed{3}[\textit{3rd,cm1}]}$, abbreviates an NP whose *index* is $\boxed{3}$, where $\boxed{3}$ is specified as [PER *3rd*] and [CM 1]. These abbreviations will be employed in this thesis giving their full specification if the need arises.

The noun and noun classes

The most striking feature of Bantu languages is the pervasive nature of noun classes (gender). In Chishona, as in other Bantu languages, nouns are divided into classes according to their prefixes, with each noun belonging to one of the twenty one noun

classes[6]. The system of noun classes sometimes encodes *gender*. Most of the prefixes however function as members of singular-plural pairs to which a particular group of stems is common. Noun class membership is marked by the class prefix which in this theory is a class mark and will be numbered in accordance with traditional Bantu grammars, which conflates gender and number information of a noun[7]. This may not be the best way of analysing nouns within Bantu languages but this does not hinge upon our theory in anyway. Any phrase that modifies or is predicated by a noun agrees with the head of that projection in class and person. Thus verbs agree with their subjects. The reasons why I have only these two features as opposed to three as in most Bantu grammars would require a much more detailed account which is beyond the scope of this thesis[8].

The participant roles ARG1 and ARG2 are anchored to the indices of the corresponding arguments in the valence list. This is a case of *structure sharing*. Structure sharing arises when two paths in a feature structure lead to one and the same node, that is, they share a similar value. In (5.8) the SYNSEM|LOCAL|CAT|VALENCE|SUBJ path in the argument $\boxed{3}$ and the SYNSEM|LOCAL|CONT|NUC|ARG1 have the same structure $\boxed{3}$ as their common value. Structure sharing is differentiated from type or structural identity. The latter involves values that are identical feature structures. By contrast, structure sharing involves *token identity*. Throughout, *token identity* of LOCAL values will be indicated by boxed tags with the same number. As will become clear as the discussion progresses, structure sharing is the main explanatory mechanism of HPSG.

5.3 Chishona Verbal Forms

5.3.1 Constraints on multiple inheritance hierarchies

The full information appearing in a lexical entry is not listed for each entry. It arises from combined constraints on the various supertypes a *word* may belong to simultaneously. The manner in which type hierarchies and lexical entries interact

[6]See Fortune (1955, 1967,1984), Fivaz & Ratzlaff (1975), Myers (1994), Mkanganwi (1995), Hannan (1996), Chimhundu (1996)

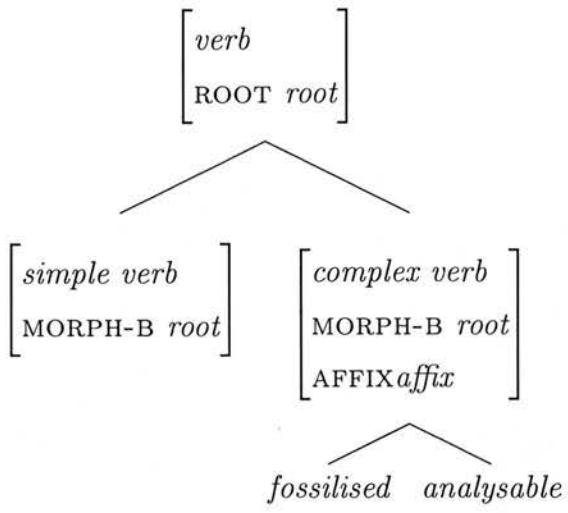
[7]The noun classification system within Bantu languages has constantly been modelled through the gender system found within the Indo-European languages hence there has been a constant differentiation when it comes to number and gender (class). However, such a way of analysing nouns within Bantu languages might be problematic. More research needs to be done in this area.

[8]For a similar view of conflating number and gender see Corbett (1991), Mkanganwi (1995) and Kashina (2000). However, for a contrasting view, Carstens (1993) treats number and gender as distinct properties.

was briefly discussed earlier. The lexical entries for *verbs* inherit the restriction that they should take a subject from their supertype verb. The lexical entries of transitive and intransitive verbs inherit restrictions on the structure of their OBJ from their supertypes *transitives* and *intransitives* respectively. This section discusses more aspects of the interaction between type hierarchies and lexical entries found within Chishona verbal structures.

Chishona word categories generally have obligatory inflecting morphemes which occur before root morphemes. In the construction of nouns for example, the noun prefixes are marked for class and person as shown in the previous section. Verbs have inflecting morphemes as well, a subject marker, marking a noun, tense and so on. In this thesis, stems are cross-classified according to various properties. It will be assumed in turn that verbs are inflected words along the lines suggested in Kathol (1993), but the precise means of dealing with inflection is irrelevant for the treatment of derivation proposed in this thesis. Chishona verbs belong simultaneously to two compatible types: (i) a simple/basic verb type, that specifies only the morphological base of the stem, (ii) complex verbs which have morphological processes affecting the stem. Within Chishona we have two types of complex verbs: one type consists of a morphological base plus a fossilised or unanalysable suffix referred in Bantu literature as a verbaliser, and the other type consists of an extended radical which is derived with an analysable suffix (Guthrie 1962). The difference between these two types is that in the latter type the derived words maintain their category while in the former case, the derived words change their category: This thesis is concerned with the analysable type. The top of the hierarchy of verbs within Chishona can roughly be partitioned as:

(5.15)

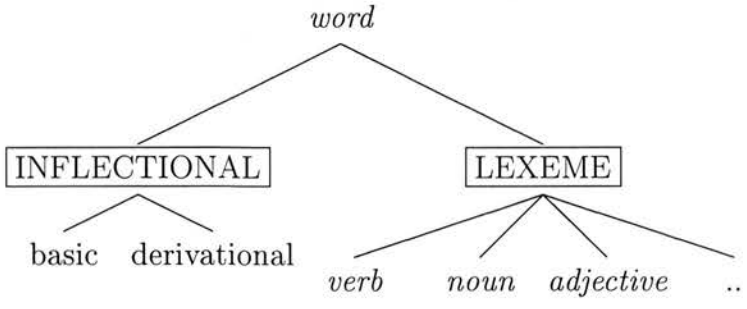


As can be seen the *complex* type has a further constraint that shows that it is derived and some kind of affix is realised.

Verb classes and the type hierarchy

As suggested by Miller & Sag (1997), I assume that each inflected word belongs simultaneously to two compatible subtypes of *word*; a *lexeme* type and an *inflectional* type.

(5.16)



The interpretation of the above partial hierarchy is that each word is cross-classified for the dimensions INF (lectional) and LEX (eme). The hierarchy further shows that the inflectional dimension has two further subtypes, derivational and basic. Though the derivational type belongs to more than one compatible subtype of *word* there is nothing in the type hierarchies specifying which types are compatible. For example,

nouns and *verbs* are subtypes of *word* along with *lexeme* and *infl*. Nothing in the hierarchy states for instance that the derivational applicative suffixes are compatible with a *verb* but not with a *noun*. These kinds of restrictions are ensured by the specifications of particular lexical entries. This means that we will not be able to find for example nouns like **mukomanira*, that is, a noun suffixed with an applicative morpheme.

The LEXEME part of the hierarchy defines the familiar subclassification of a word in terms of its major category, its arguments and the semantic roles of the arguments. In addition to the SYNSEM information the *lexeme* type of a verb provides its morphological root as a value of the attribute MORPH-BASED. Word formation in Chishona is affixation, which means that words that are found in the language have a morphological base which is declared to have a phonology as well as a meaning and syntactic values. It is this base form that affixation operations can occur on, and within morphological studies this is the stem or root or lexeme. Consider (5.17), which illustrates the lexemic description of *bvarur-a*, the root of tear in Chishona:

(5.17)

$$\left[\begin{array}{l} \textit{word} \\ \text{PHON } \boxed{1}\left\langle \textit{bvarura} \right\rangle \\ \text{MORPH-B } \left\langle \left[\begin{array}{l}\text{PHON } \boxed{1} \\ \text{SS } \boxed{2}\end{array}\right] \right\rangle \\ \text{SYNSEM|LOCAL}\boxed{2} \left[\begin{array}{ll} \textit{local} & \\ \text{CAT | VALENCE} & \left[\begin{array}{ll}\text{HEAD} & \textit{verb} \\ \text{SUBJ}\left\langle \text{NP}\boxed{3} \right\rangle & \\ \text{OBJ } \left\langle \text{NP}\boxed{4} \right\rangle & \end{array}\right] \\ \text{CONT}\boxed{5} & \left[\begin{array}{ll}\text{RELN} & \textit{tear} \\ \text{ARG1 } \boxed{3} & \\ \text{ARG2 } \boxed{4} & \end{array}\right] \end{array}\right] \end{array}\right]$$

The *derivational* type specifies a derivational form for a given lexeme. Compare the lexemic description of *bvarura* given in (5.17) with (5.18) which describes a *derivational applicative* form of *bvarura*, *bvarurira*. This feature system will allow recursive left branching structures for Chishona morphology. For instance, the word like *bvarurira*, 'tear for', will have the morphological base root *bvarura*, 'tear', which takes *V-r-* as its affix value and become the morphological object stem, with the

resulting phonological value of *bvarur- + V-r- + a*. This is at best very simple and will be explained further in Chapter 6.

(5.18)

$$\left[\begin{array}{l}\text{PHON } \boxed{1}[\boxed{0} + er] \\ \text{MORPH-B} \left[\begin{array}{l}\text{MORPH-B PHON } \boxed{0}\ bvarura \\ \text{SYNSEM|LOC}\boxed{4}\left[\text{CAT|VAL}\left[\begin{array}{l}\text{SUBJ}\langle \text{NP}\boxed{2}\rangle \\ \text{OBJ}\langle \text{NP}\boxed{3}\rangle\end{array}\right]\right] \\ \text{CONT|LOC}\boxed{5}\left[\begin{array}{ll}\text{RELN} & tear \\ \text{ARG1} & \boxed{2} \\ \text{ARG2} & \boxed{3}\end{array}\right]\end{array}\right] \\ \text{SYNSEM|LOC}\boxed{4}\left[\begin{array}{l}\text{CAT|VAL|OBJ}\left[\boxed{3}+\boxed{6}\right] \\ \text{CONT|LOC}\boxed{5} + applicative\end{array}\right]\end{array}\right]$$

The two AVMs differ in two major ways. First, while the *lexeme* has only a MORPH-B|STEM value, the *derived word* form takes an embedded morphological base to show that this is recursive in nature and that the applicative operation affects a basic stem in addition to the MORPH-B|STEM. The second difference involves the addition of another object as indicated by $\boxed{3}$ and $\boxed{6}$. In (5.17) there is only one object on the object list but in (5.18) there are two. This is a consequence of the following constraint on verbs of type *applicative*:

(5.19) $$applicative\ verb \longrightarrow \left[\text{OBJ } |[\ ]+\text{NP}|\right]$$

Applicativisation thus entails the addition of an extra object.

This section highlights the point that lexical entries of *words* in HPSG are feature structures of considerable complexity since they encode information about different levels of grammar. This complexity, however, is compensated for by the hierarchical organisation of the lexicon, which allows the expression of cross-cutting generalisations on appropriate types and their inheritance by their subordinate types. The sections above have also shown that most of the information present in a lexical entry of a *word* is predicted by constraints on its supertypes.

At this point it is important to give more details on the type *verb*, the type hierarchy and the constraints associated with this type. The various subtypes of the *verb-lxm*, differentiated by their OBJ list specifications, are organised as shown in figure 5.2

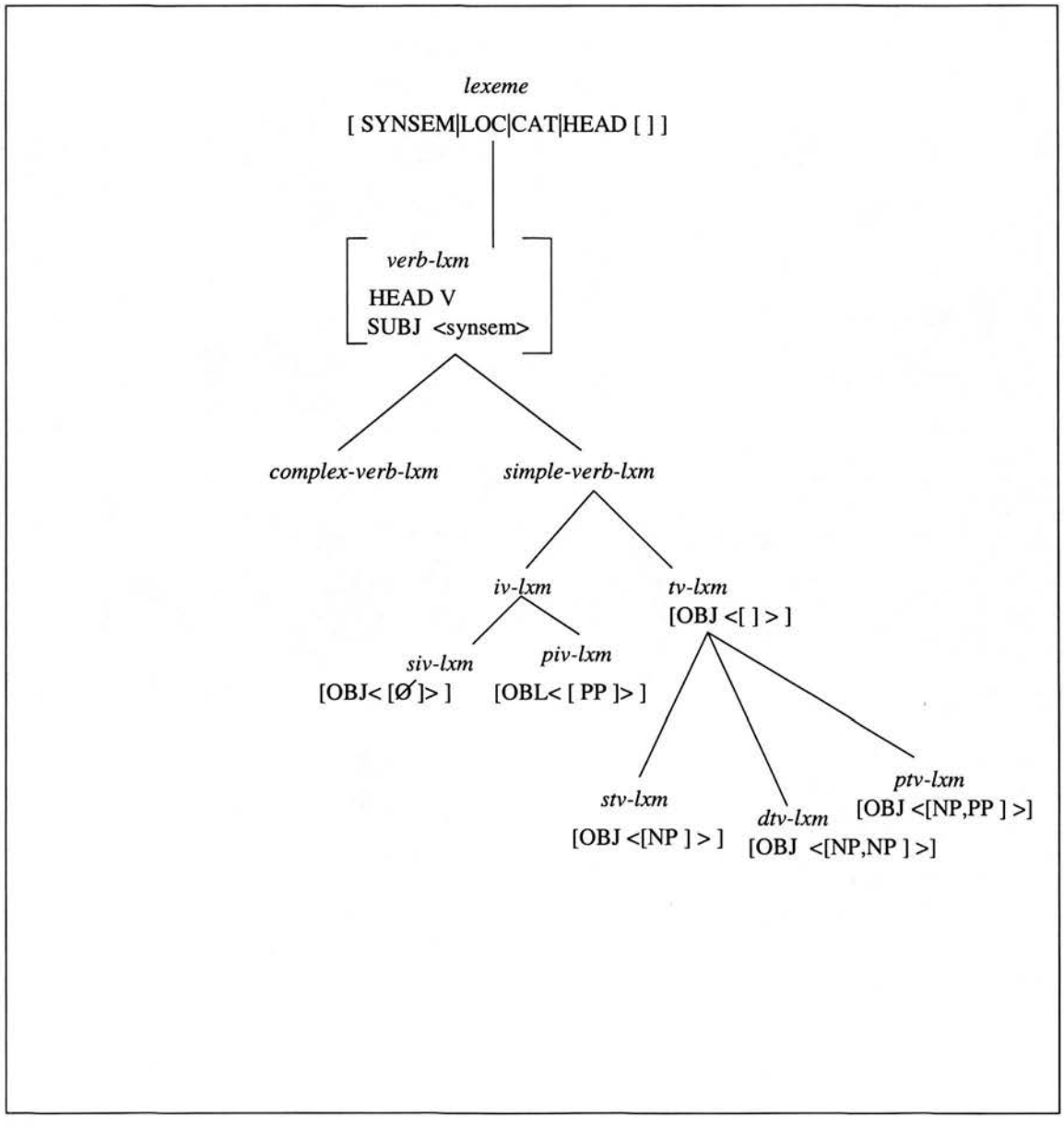


Figure 5.2: Verb types to be adopted in this analysis

Verbs are a subtype of *lexeme* whose HEAD value is constrained to be of type *v*. Subtypes of the *verb* define various subcategorisation types by providing a value for the OBJ which is a value of the VALENCE feature. The hierarchy shows that type *simple-verb-lxm* has its subtypes, *transitive-verb-lexeme (tv-lxm)* and *intransitive-verb-lexeme (iv-lxm)*. The latter is further subclassified into *strict-intransitive-lexeme (siv)* and *prepositional-intransitive-lexeme (piv-lxm)*. The former type takes no objects at all, while the latter takes a PP complement. Similarly, the transitive verbs are subclassified into *strict-transitive-lexeme (stv-lxm)* which takes one object, *ditransitive-transitive-lexeme (dtv-lxm)* which takes two objects and *prepositional-transitive-lexeme (piv-lxm)*, which takes one object and an oblique. The subtypes of *verb* define the different subcategorisation by providing a value for the list OBJ. The *verb type hierarchy* above shows that *verbs* are distinct types associated with the constraints found in the OBJ list. What defines all these distinct types of verbs as verbs however, is the fact that all the types are constrained to have the HEAD value of *verb*.

These types and their associated constraints allow for the elimination of lexical stipulation in favour of type based inference (Sag & Wasow 1999). Thus from the simple statement that *-pa*, 'give', belongs to *dtv-lxm*, we can infer that it has all the properties shown in (5.20):

(5.20) $$\textit{-pa}\rightarrow \begin{bmatrix} \textit{dtv-lxm} & \\ \text{SYN} & \begin{bmatrix} \text{HEAD} & \textit{verb} \\ \text{SUBJ} & \langle \text{NP} \rangle \\ \text{OBJ} & \langle \text{NP,NP} \rangle \end{bmatrix} \end{bmatrix}$$

The multiple inheritance approach to lexical organisation identifies regularities such as the transitive verbs, and encodes them in type hierarchies containing bundles of feature descriptions. Thus, while verbs like *nyima*, 'refuse', *bvarura*, 'tear' and *tsva*, 'burn', are all verbs denoting some sort of relation between their arguments and are susceptible to the same morphological processes, they are different in that *nyima* is a ditransitive:'A refuses B C' while *bvarura* is transitive: 'A tears B' and *tsva* is intransitive:'Something happens to A'. As can be seen from the multiple inheritance in figure (5.2), the syntactic differences are captured by separating ditransitives, transitive and intransitive verbs in an inheritance hierarchy, where all transitives have an object list of length one, while a ditransitive has an object list of length

two and an intransitive verb has an object list of length zero. This allows the verbs within any language to be differentiated along these lines.

Given all this, we assume that the basic lexical entry for the lexeme *tinha.*'drive' need stipulate only the information shown in (5.21):

(5.21) $$\textit{tinha}\rightarrow \begin{bmatrix} \textit{v-lxm \& strict-trans} \\ \text{CONTENT } \textit{tinha-rel} \end{bmatrix}$$

where *verb-lexeme* and *strict-transitive* are distinct types associated with the constraints shown on the two hierarchies above, as illustrated below:

(5.22) a. $$\textit{strict-trans}\rightarrow \left[\text{OBJ } [\text{NP}]\right]$$

b. $$\textit{verb-lxm}\rightarrow \left[\text{HEAD } v\right]$$

Further, since *tinha-rel* is a subtype of *strict-trans* , it means that it has two participants associated with it, and thus we have ARG1 and ARG2 which are underspecified for real participant roles. Thus, this classification, together with inheritance of constraints in (5.22a) and (5.22b), mean that the lexeme *tinha*, 'drive', inherits all the information as in (5.23):

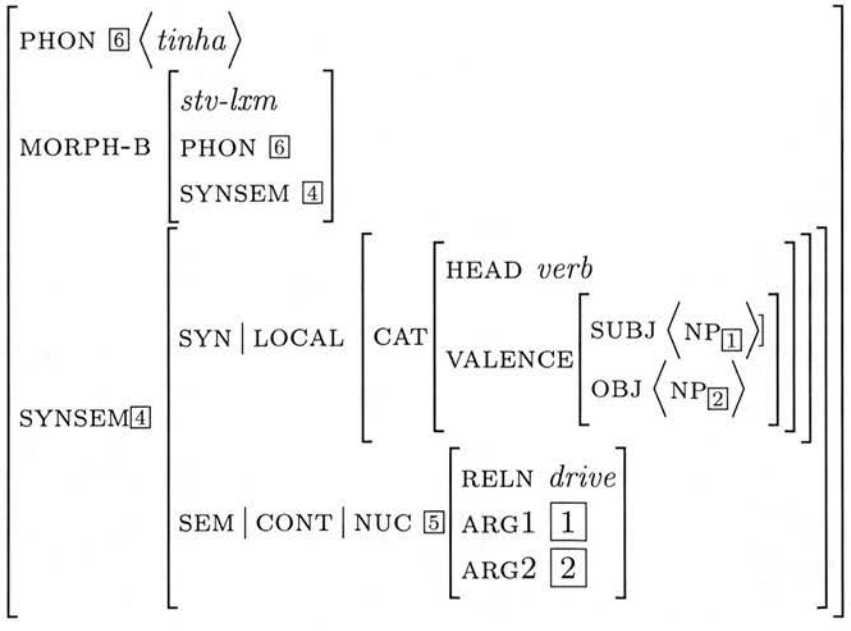
(5.23) $$\textit{tinha}\Rightarrow \begin{bmatrix} \textit{strict-trans} \\ \text{HEAD } \textit{verb} \\ \text{SUBJ } \left\langle \text{NP}\boxed{1} \right\rangle \\ \text{OBJ } \left\langle \text{NP}\boxed{2} \right\rangle \\ \text{CONTENT } \begin{bmatrix} \textit{tinha-rel} \\ \text{ARG1 } \boxed{1} \\ \text{ARG2 } \boxed{2} \end{bmatrix} \end{bmatrix}$$

These representations are further enriched by specifying constraints on particular nodes in the hierarchy. Verbs within this analysis invariably have a subject, thus all lexemes which are verbal in nature will inherit this constraint. The SUBJ value of all lexemes of the *verb* type is a singleton list:

(5.24) $$\textit{verb}\rightarrow \left[\text{SUBJ } \left\langle [\ ] \right\rangle\right]$$

The combined effects of the constraints given at each node yield an enriched lexical entry for *tinha* as follows:

(5.25)



There are certain points that need to be emphasised. The subject within HPSG is not external as assumed in Principles and Parameters; HPSG assumes that subjects are selected by verbs just like other arguments. The selection of arguments of a verb within HPSG as well as the assignment of participant roles and derivational morphology all take place within the lexicon.

This concludes the HPSG analysis of Chishona verb forms:I have shown how the type hierarchy is to be specified and how the architecture of the signs representing the various verb forms of Chishona can be specified. In particular, the HEAD, and SYNSEM features and their corresponding type specifications have been considered.

5.4 Principles and Rules

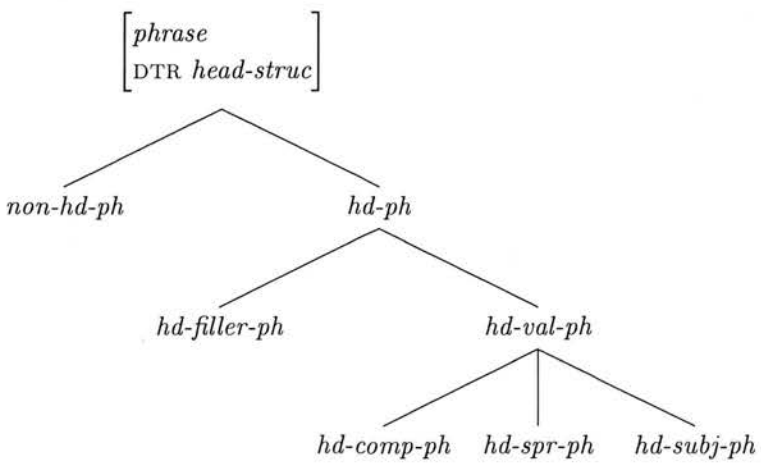
The preceding section has shown that the principal linguistic tool within HPSG is the *sign*; and we assume that signs fall into two incompatible subtypes, *phrasal* signs and *lexical* signs. Representative words demonstrating what it entails to be a sign have been the focus of the previous section. These lexical entries need not be simply listed but are organised as a multiple inheritance hierarchy.

HPSG is a syntactic theory, and lexical signs are combined together under phrase structure schemata and constrained by universal and language specific principles. In this section I focus on the phrase structures that are necessary for an account of Chishona data. The principles and rules express syntactic and semantic combinations of signs. The principles of HPSG are expressed as implicative constraints on phrasal signs. In this section I will mainly look at the general build up of lexical items into phrases and finally sentences. The grammar has various sets of schemata and general principles that have to be satisfied. The discussion in this section will centre around these principles and schemata.

5.4.1 Phrasal structures

Phrases are a subtype of sign. They result from combining signs according to immediate dominance (ID) schemata. *Phrase* in turn, has its own subtypes. The hierarchy in (5.26) illustrates some subtypes of *phrase* for English (Sag 1997 and Sag & Wasow 1999):

(5.26)



Phrase has two immediate subtypes *non-headed-phrase (non-hd-ph)* and *headed-phrase (hd-ph).* Within this thesis I am mainly concerned with the *headed phrase.* The latter is further subdivided into *head-filler-phrase* and *head-valence-phrase. Head-filler-phrases* are constituents where an extracted XP, the *filler* combines with a clause containing a *gap* corresponding to the *filler. Head-valence-phrase* are phrases arising from the combination of a head with complements as exemplified by the feature *head-complement-phrase*, a subject as shown by *head-subject-phrase* and a specifier as illustrated by *head-specifier-phrase.* In addition to inheriting from the

type *sign*, the type *phrase* also has another attribute a DAUGHTERS (DTRS) feature, which represents the immediate constituent structure of the *phrase* (Pollard & Sag 1994). All *headed phrases* have a HEAD-DTR feature and one or more NON-HEAD-DTRs. Depending on the sort of *phrase*, NON-HEAD-DTR may be COMP-DTRs, FILLER-DTRs and so on. DTRs in turn take *phrases* as values.

Two general constraints are associated with *headed-phrases*, the HEAD FEATURE PRINCIPLE (HFP) and the VALENCE PRINCIPLE Pollard & Sag (1994).

The Head Feature Principle (HFP) identifies the HEAD value of any headed phrases with that of its head daughter; this is indicated above by identical tags on the lowest VP and all the phrases that contain it. The HFP is formalised thus:

(5.27) HEAD FEATURE PRINCIPLE
The head value of a headed phrase is identical to the value of the head daughter

Borsley (1996:50)

This means that in any headed phrase, the HEAD value of the mother and the HEAD of the daughter are token identical as illustrated below:

(5.28)
$$\begin{bmatrix} \textit{phrase} \\ \text{HEAD } \boxed{1} \end{bmatrix} \rightarrow \text{H} \begin{bmatrix} \textit{word} \\ \text{HEAD } \boxed{1} \\ \text{VAL } .. \end{bmatrix}$$

This in other words guarantees that each phrase must share its morphosyntactic features with its head daughter. HFP allows a MOTHER to inherit the HEAD value of the HEAD-DTR. *Phrases* are thus projections of their HEAD-DTRS. The second universal principle is the VALENCE PRINCIPLE (VALP) as illustrated in (5.29):

(5.29) VALENCE PRINCIPLE
In a headed phrase, for each valence feature F, the F value of the head daughter is the concatenation of the phrase's F value with the list of SYNSEM values of the F-DTRS value.

Pollard & Sag (1994: pg.348)

Sag & Wasow (1999) point out that the effect of this rule is twofold: (1) the appropriate elements mentioned in particular rules are cancelled from the relevant valence specifications of the head daughter in head-object or subject-head phrases

and (2) all other valence specifications are simply passed up from head daughter to mother. In other words, VALENCE PRINCIPLE ensures that an object or subject in the Chishona context, once realised as OBJ-DTR or SUBJ DTR is not inherited by the mother. The Valence principle defines the value of the SUBJ and OBJ on the mother to be the result of subtracting the non-head daughters' SYNSEMS from the corresponding valence list on the head-daughter.

Phrases are licensed through *immediate dominance (ID) schemata (id-schemata)* which specify the appropriate DAUGHTERS for each constituent and their properties. For example, the HEAD-OBJS-ID-SCHEMA licenses a HEAD-OBJ-PHRASE. This schema constraints the HEAD-DTR to be of type *word* as stated below and illustrated in (5.30):

(5.30) HEAD-OBJECT SCHEMA
The SYNSEM|LOCAL|CATEGORY|VAL value is a list of length one, and the DTRS value is an object of sort *head-object-struc* whose HEAD-DTR value is a word. This exemplifies the *synsem* value of type *wsynsem.*

(5.31)

$$\left[\begin{array}{l} \textit{hd-obj-phr} \\ \text{SYNSEM}\left[\begin{array}{l} \textit{psynsem} \\ \text{HEAD}\boxed{5} \\ \text{SUBJ}\langle\boxed{8}\text{NP}\ \rangle \\ \text{OBJ}\langle\ \rangle \\ \text{CONT}\boxed{4} \end{array}\right] \\ \text{HD-DTR}\left[\begin{array}{l} \textit{wsynsem} \\ \text{SYNSEM}\left[\begin{array}{l} \text{HEAD}\boxed{5} \\ \text{SUBJ}\langle\boxed{8}\text{NP}\rangle \\ \text{OBJ}\langle\boxed{9}\text{NP}\rangle \\ \text{CONT}\boxed{4} \end{array}\right] \end{array}\right] \\ \text{HD-DTR}\left[\begin{array}{l} \textit{wsynsem} \\ \text{SYNSEM}\left[\begin{array}{l} \text{HEAD}\boxed{5} \\ \text{SUBJ}\langle\boxed{8}\text{NP}\rangle \\ \text{OBJ}\langle\boxed{9}\text{NP}\rangle \\ \text{CONT}\boxed{4} \end{array}\right] \end{array}\right] \\ \text{OBJS-DTRS}\ \langle\left[\text{SYNSEM}\ \boxed{9}\text{NP}\right]\rangle \end{array}\right]$$

The above schema also shows that the LOC value of the OBJ-DTRS should be *token identical* with the LOC value of the corresponding members of the OBJ illustrated

here as OBJ of the HEAD-DTR. In this AVM, we see that the LOC value of the OBJS-DTR [9] is *token identical* with the LOC value of the object [9] in the OBJ of the HEAD. The valence principle ensures that [9] does not appear in the MOTHER'S OBJS as shown by the empty object list in the *head-obj-phrase*. The HEAD-OBJ-SCHEMA licenses an example of a VP in Chishona such as:

(5.32) nhong-a donje
pick-FV 5-cotton
'pick cotton'

There is a local principle operating within the HEAD-OBJ structure given in (5.32) which states that in Chishona, HEADS precede objects, as illustrated in (5.33):

(5.33) $\begin{bmatrix} phrase \\ \text{OBJ } \langle\rangle \end{bmatrix} \Rightarrow \text{H} \begin{bmatrix} word \\ \text{OBJ } \left\langle \boxed{1}, \ldots, \boxed{\text{N}} \right\rangle \end{bmatrix}$

A phrase can consist of a lexical head followed by all its objects

Sag & Wasow (1999:127)

The consequence of this linear ordering is that the first word is the HEAD and the second is the OBJECT. In other words, the *verb* is required to occur to the left of the object. If the verb occurs to the right of the object, this results in unacceptability as illustrated in the phrase (5.34):

(5.34) *donje nhong-a
5-cotton pick-FV
'cotton pick'

The SUBJ-HEAD-ID-SCHEMA licenses a SUBJ-HEAD-PHRASE which states the following constraint: When combining with the subject, the verb phrase selects a saturated NP. All values in the subject-head are saturated.

(5.35) SUBJECT-HEAD SCHEMA
The SYNSEM|LOCAL|CATEGORY|VAL value is⟨ ⟩, and the DTRS value is an object of sort *head-obj-struc* whose HEAD-DTR value is a phrase... and whose OBJ-DTRS value is a list of length one.

When combining with a subject, the verb in Chishona selects a nominal complement which has the right agreement features to combine with it to form a SUBJECT-HEAD phrase. According to the rule, all values in the SUBJECT-HEAD phrase are saturated. There is nothing in the VALENCE PRINCIPLE that prevents subject and object saturation in any order, so Sag (1997) provides extra constraints to ensure that argument saturation occurs in the correct order. Moreover, a local principle is in operation which states that Subjects precede verbs as exemplified in structure (5.36).

(5.36) $\begin{bmatrix} phrase \\ \text{SUBJ } \langle\rangle \end{bmatrix} \rightarrow \boxed{1}\ \text{H} \begin{bmatrix} word \\ \text{SUBJ } \langle \boxed{1} \rangle \end{bmatrix}$

A phrase can consist of a phrasal head preceded by its subject

Sag & Wasow (1999:127)

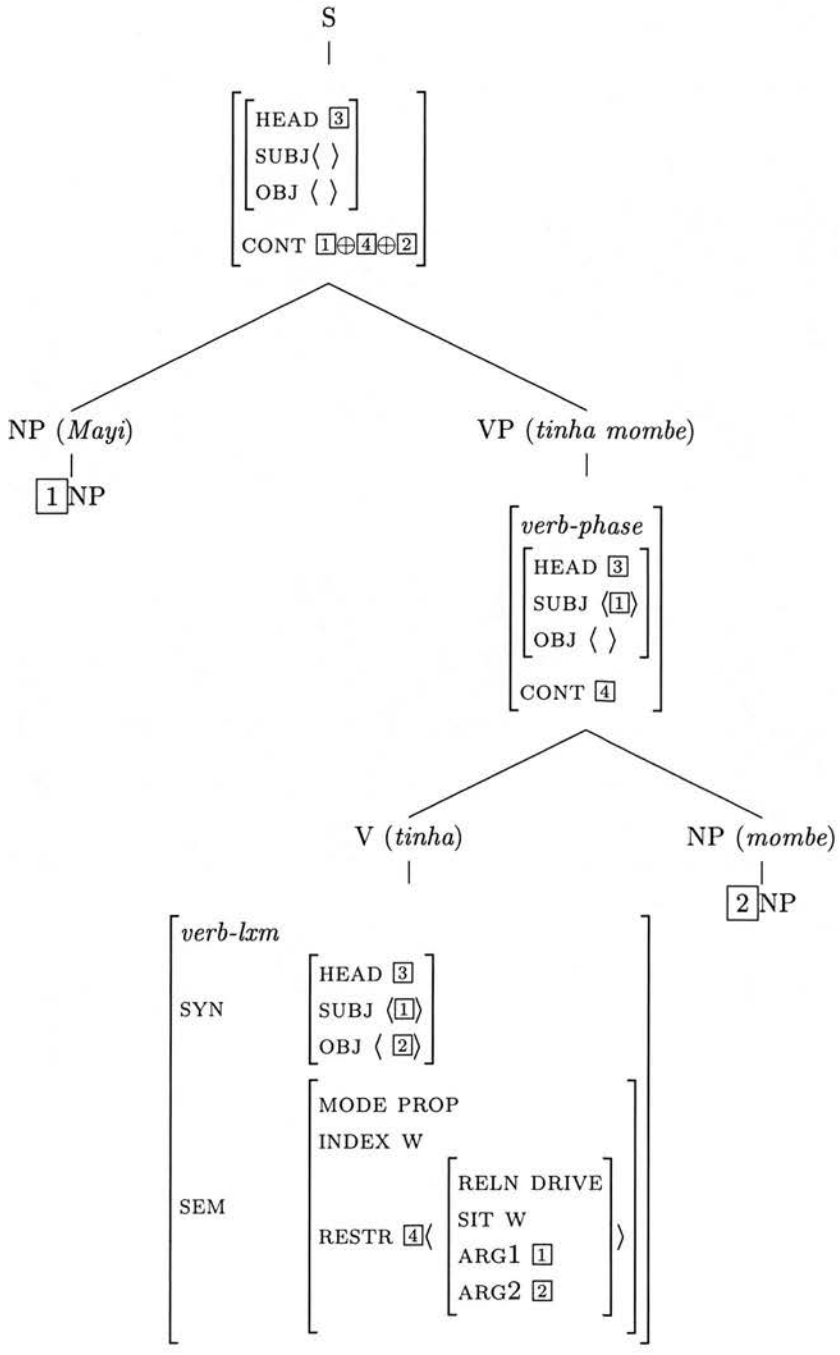
The result of this ordering is that the first word is a Subject and the second a Head, thus the phrase structure assumes a SUBJ-HEAD structure.

The HEAD-SUBJ-SCHEMA and the HEAD-OBJ-SCHEMA licenses an example of an SVO sentence in Chishona as in (5.37).

(5.37) Mu-kadzi a-ka-tinh-a mombe
1-woman 1SM-PST-drive-FV 10-ox
'The woman drove cows'

A small set of principles such as described above is sufficient to derive most of phrasal constructions from the properties of words, as illustrated in (5.38).

(5.38)



The structure in (5.38) is depicted as a tree for expository purposes. This illustrates a number of aspects of HPSG as developed in (Pollard & Sag (1994), Sag (1997) and Sag & Wasow (1999)). Each substructure above is some type of phrase (subject head or head object). Each of the phrases obey the principles of HPSG theory, most importantly, the HFP and VALENCE PRINCIPLE. The boxed integers indicate identities, in this case those required by the Head Feature Principle and the Valence

Principle. The lexical entry for the word *tinha* specifies the part of speech *verb* (tagged [3]), which the Head Feature Principle identifies as the HEAD value of both VP and S.

I will be considering the example (5.38) in a bottom up fashion, beginning with the lexical head, *tinha*, 'drive', which is a typical lexical entry as given in Section 5.3. The next node up, representing the VP *tinha mombe*,'drive cows', has two daughters, the lexical head already considered as (H), and the logical object *mombe*, 'cows'. In the lexicon these two valence specifications are potential, so they are said to be *unsaturated.* When the arguments are expressed as in sentence (5.37) they are said to be *saturated.* The object combines with a verb under a HEAD-OBJECT structure and the subject combines with the HEAD-OBJECT PHRASE to form a SUBJECT HEAD PHRASE to complete the parse of the sentence. The configuration of the tree depicted in (5.38) is determined by the interaction of other principles in the theory such as the VALENCE PRINCIPLE. The VALENCE PRINCIPLE as shown previously operates over the features SUBJECT and OBJECT to ensure that these features are cancelled off when they combine under the SUBJECT HEAD and OBJECT HEAD phrases respectively.

The object daughter of the VP has its SYNSEM value (indicated by tag [2], token identical to the OBJ element on the VALENCE list of the head daughter. This state of affairs exemplifies the Valence Principle as stated in (5.29). The effect of this principle is to cancel off the valence requirements of the lexical head as they become *saturated.* The second point to note with respect to the VP node is that its HEAD value indicated by the tag [3] is token-identical to that of *tinha.* This exemplifies the *Head Feature Principle* as stated in (5.27). The effect of the HFP is to guarantee that headed phrases are really projections of their head daughters.

Finally we consider the top node, representing the whole sentence, which has two daughters. One, the head daughter, is the VP just considered , while the subject daughter is the subject *Mayi.* In accordance with the Valence principle, the SYNSEM value of the subject is token-indentical to the remaining element (indicated as [1] on the valence list of the VP). After combining with the OBJ the VP will still be looking for a subject. When combining with the subject, the verb phrase selects a saturated NP.

The semantic content of a phrase is identified with the content of the head daughter and the non-head daughters.. This is guaranteed by the SEMANTIC COMPOSITION-

ALITY PRINCIPLE as given by Bouma, Malouf & Sag (1997:18) and Sag & Wasow (1999:116)

(5.39) SEMANTIC COMPOSITIONALITY PRINCIPLE

$$\textit{headed-phrase} \Rightarrow \left[\begin{array}{l} \text{CONT} \left[\begin{array}{l}\text{KEY } \boxed{1} \\ \text{RELS } \boxed{2} \oplus \boxed{3} \oplus \ldots \oplus \boxed{I}\end{array}\right] \\ \text{HEAD-DTR} \left[\text{CONT} \left[\begin{array}{l}\text{KEY } \boxed{1} \\ \text{RELS } \boxed{2}\end{array}\right]\right] \\ \text{NON-HEAD-DTRS} \left\langle \left[\text{CONT}|\text{RELS}\boxed{3}\right], \ldots \left[\text{CONT}|\text{RELS}\boxed{I}\right]\right\rangle \end{array}\right]$$

In any well formed phrase structure, the mother's RESTR *value is the sum of the* RESTR *values of the daughters*

Here RELS (relations) is a list of constraints. The value of the feature KEY is the semantic relation introduced by the lexical head of the phrase and is passed up from the head of a phrase to the mother. From the semantic compositionality principle, the semantics of the phrase is the union of the sets of semantic constraints and relations provided by the daughters as illustrated above. This shows that all the restrictions from all the daughters in a phrase are collected in the RESTR value of the mother.

The top node is S. In the above tree, (5.38) S corresponds to a phrase with a verbal head and empty VALENCE (S→HEAD:*verb*, SUBJ:⟨ ⟩, OBJ:⟨ ⟩). On the other hand, VP corresponds to a phrase with empty OBJS and non-empty SUBJ.

The tree in (5.38) corresponds to the feature structure in (5.40):

(5.40)

$$\left[\begin{array}{l} \textit{hd-subj-phr} \\ \text{PHON} \left\langle \textit{mukadzi akatinha mombe} \right\rangle \\ \text{SYNSEM} \left[\begin{array}{l} \textit{psynsem} \\ \text{HEAD} \boxed{5} \\ \text{SUBJ} \langle\ \rangle \\ \text{OBJ} \langle\ \rangle \\ \text{CONT} \boxed{8} \oplus \boxed{4} \oplus \boxed{9} \end{array}\right] \\ \text{NON-HD-DTRS} \left\langle \left[\begin{array}{l} \textit{wsynsem} \\ \text{PHON} \left\langle \textit{mukadzi} \right\rangle \\ \text{SYNSEM} \boxed{8}\text{NP} \end{array}\right] \right\rangle \\ \text{HD-DTR} \left[\begin{array}{l} \textit{hd-obj-phr} \\ \text{PHON} \left\langle \textit{tinha mombe} \right\rangle \\ \text{SYNSEM} \left[\begin{array}{l} \textit{psynsem} \\ \text{HEAD} \boxed{5} \\ \text{SUBJ} \langle\ \boxed{8}\text{NP}\ \rangle \\ \text{OBJ} \langle\ \rangle \\ \text{CONT} \boxed{4} \end{array}\right] \\ \text{HD-DTR} \left[\begin{array}{l} \textit{wsynsem} \\ \text{PHON} \left\langle \textit{tinha} \right\rangle \\ \text{SYNSEM} \left[\begin{array}{l} \text{HEAD} \boxed{5} \\ \text{SUBJ} \langle\ \boxed{8}\text{NP}\ \rangle \\ \text{OBJ} \langle\ \boxed{9}\text{NP}\ \rangle \\ \text{CONT} \boxed{4} \end{array}\right] \end{array}\right] \\ \text{NON-HD-DTRS} \left\langle \left[\begin{array}{l} \text{PHON} \left\langle \textit{mombe} \right\rangle \\ \text{SYNSEM} \boxed{9}\text{NP} \end{array}\right] \right\rangle \end{array}\right] \end{array}\right]$$

It is important to highlight certain points about this feature structure. First, the constraints employed in the formulation of this rather complex structure are both lexical (the lexical items themselves which state certain requirements such as agreement and object specifications) and phrasal (with schemata and principles like the head feature principle, semantic compositionality principle). Second, emphasis on lexical information is inherent in the lexical entry of the verb *tinha*,'drive', which

states that the sentence must have a subject and an object, satisfying the valence requirements as well as the semantics (the sentence describes a driving event, with the subject, the actor and the object the undergoer using Davis (1996)'s semantics). Structure-sharing within the verb's lexical entry ensures that these same *synsem* objects serve as the values of ARG1 and ARG2 in the verb's and the sentence's CONTENT. In example (5.40) however, the semantics is underspecified.

The sentence is treated as an instance of a head-subject phrase as illustrated in structure (5.40). The HFP ensures that the head values of the verb are structure shared with the phrasal mother, and the Valence Principle ensures that the SUBJ and the objects are cancelled off. The semantic compositionality principle guarantees that the CONTENT value of the phrasal mother is structure-shared with that of the verb. The three principles are seen as type constraints rather than as clauses in a definition of phrasal satisfaction.

It is important to point out that within HPSG grammar *phrases* are in essence treated in the same manner as *words* . Both are subtypes of the object *sign* and their well-formedness depends on whether they satisfy constraints imposed on their various supertypes.

HPSG defines a number of phrasal schemata, but in this section I have only described schemata that are needed for the analysis to be developed in this thesis. The data analysed in this thesis makes use of Object-head and Subject-head schemata.

5.5 Conclusion

The chapter has served as a basic introduction to HPSG. It has further introduced essential aspects of HPSG relevant to the analysis of the Chishona data in this thesis. The data addressed were mainly Chishona verbal forms, in their simple form and partially as derived forms (the topic of the next chapter), and the lexical entries of verbs and the associated phrasal structures as HEAD OBJECT and SUBJECT HEAD which reflect the linear ordering of words within Chishona, with subjects preceding *head object* phrases. In other words, the subject comes before the verb, which in turn precedes the object.

This chapter has further shown the advantages and elegance of using *feature structures* as linguistic representations. Central to the theory of *feature structures* has been the notion of a linguistic type which has been used both to declare which features are appropriate for particular kinds of linguistic entities and to classify

linguistic entities (and the constraints they obey) in a hierarchical fashion. By including phonological, syntactic and semantic information within the same feature structure, it is easy to state the constraints that express the relationship among them.

Information in the feature structures is not simply listed but is organised in lexical type hierarchies. HPSG is a theory that employs the mechanism of a type hierarchy constructed on the basis of well-defined *types* . The mechanism of type hierarchy in combination with constraints enabled the capturing of regularities associated with *word types* in a systematic manner and to minimise redundancies in constructing a lexicon due to the multiple inheritance in the type hierarchy. As concluded by Sag & Wasow (1999) such a theory allows us to express generalisations that cut across words and it provides a more elegant constraint-based analysis of grammatical features. The lexicon found within HPSG is structured representing linguistically relevant subclasses of words explicitly. This results in the reduction of grammatical redundancy.

The importance of this chapter lies in defining the lexicon as a small set of types and constraints and organising these into a hierarchy. HPSG is a sign-based conception of grammar, where well-formed structures simply satisfy all the constraints declared for them. Types are organised into a hierarchy each member of which is associated with appropriate constraints. Given this background, the applicative verb should be seen as a *type* of verb which has available to it different constraints which every type of applicative verb in Chishona needs to satisfy. Thus the different interpretations associated with the applicative verb as seen in Chapter 4 should not be seen as distinct types but should be seen as a single type the *applicative verb.* The single *goal* semantic meaning of applicatives as proposed in Chapter 4 then neatly follows through within an HPSG theory.

I have given a preview of verb forms that will be developed in the following chapter. In the next chapter, I will address the issue of how to manage the proliferation of the different semantic interpretations associated with the applicative suffix as discussed in Chapter 4 as well as the different syntactic behaviour of applicative constructions as explained in chapter 2.

Chapter 6

An HPSG account of the Chishona applicative

6.1 Introduction

The preceding chapters have established three characteristics of the Chishona applicative construction: that the applied object is an additional object; the two objects that are found in prototypical applicative constructions are symmetrical in terms of syntactic behaviour, modulo animacy effects; all the different interpretations of the applicative construction are derived from a single interpretation, a generalised goal relation. The aim of this chapter is to formalise all these three properties. I will show, through HPSG, that all these properties can be accounted for within the lexicon. Thus the overall goal will be to show how the applicative is generated and where it is located within the Chishona morphological verb hierarchy. In order to accommodate these properties, I will adopt Riehemann (1993, 1998)'s Type Based Derivational Morphology (TBDM) to account for the complex word formation of the applicative verb. Central in this formalisation will be the use of a shuffle operator to explain the different syntactic patterns of the applicative as well as the semantic patterns. By using HPSG and utilising Riehemann (1993, 1998)'s type-based theory of derivational morphology, it will be shown that there is a very general set of properties associated with all applicatives and that particular instantiations can be derived from these within the lexicon.

This chapter has the following sections; section 6.2 gives a general overview of Riehemann's TBDM theory, and section 6.3 focuses on the application of Riehemann's theory with respect to Chishona applicatives. Section 6.4 is a syntactic analysis of the applicative arguments, noting that passivisation and object marked

verbs can be derived from the lexicon, through the lexical hierarchy. The asymmetrical nature of the Chishona applicative construction is dealt with in section 6.5. Section 6.6 provides a review and summary of this chapter.

6.2 Type Based Derivational Morphology

In this chapter, I present a unified type feature based theory of the applicative construction, in which there is no need either for an applicative lexical rule as in Lexical Functional Grammar (Bresnan & Kaplan 1982), since lexical rules do not allow hierarchical variations and multiple related lexical changes entail multiple lexical rules or for a head movement rule as in Government and Binding (Baker 1988*b*). Chishona has a complex derivational and inflectional system, showing agglutinative morphology and using affixation as a major mechanism for word formation[1]. The applicative verb is a morphologically complex verb that is formed through suffixation. The theory of the lexicon within HPSG seeks to systematically capture the productivity of the morphological patterns by describing general relationships which build morphologically complex words. The mechanism for affixation within standard HPSG is that of lexical rules. However, as shown by Riehemann (1998), we can easily account for word formation through the lexical hierarchy without resorting to lexical rules. This is in line with work found in Krieger (1993), Kim (1994) and Koenig & Jurafsky (1994) who have worked on various ways of eliminating lexical rules as a word formation mechanism.

In accounting for derivational morphology, Riehemann (1998), develops a type-based approach which "is formalised in terms of complex recursive schemata structured in a multiple inheritance without positing lexical rules or lexical entries for affixes" (pg.1). The advantage of Riehemann's approach is that it allows inheritance within the hierarchical lexicon to extend over both the stem or word types and derivational types while preserving the locality of information and lexical integrity of words within the syntax (Bresnan & Mchombo (1995) and Manning & Sag (1998)). Her analysis is based on data from German and she accounts for the *-bar* adjectives, which are equivalent to the English ' -able' adjectives as illustrated in example (6.1) in which the verb *bemerken*, 'notice', is transformed into the adjective *bemerkbar*, 'noticeable':

[1]See traditional grammars on Chishona

(6.1) a. Sie bemerken die Veränderung
they notice the change
'They notice the change'

b. Die Veränderung ist bemerkbar
the change is noticeable
'The change is noticeable'

Morphologically, *-bar* adjective formation works by suffixation of *-bar* to the morphological root of a transitive verb, with the result of the accusative object of the basic verb becoming the subject of the adjective. This is like a passive, but the suppressed subject normally cannot be expressed in a *by*-phrase.

Riehemann (1998) concludes that all words are examples of high level generalisations that the lexicon provides. She develops the view that *-bar* is neither a suffix with its own lexical entry and strict subcategorisation information, nor is it just phonological material added by a lexical rule. Instead it is seen in terms of a schema[2], arising as a generalisation about existing *-bar* adjectives in the lexicon. The schema states that there is a class of adjectives ending in *-bar* which have transitive verb stems as their first part. It also states various semantic and syntactic properties and relation to the verbal stem.

She proposes a general schema for the *-bar* adjectives which inherits from the schema for transitive verbs. This schema has a subject and an accusative object and is linked with Davis (1995)'s CONTENT relation of *act-und-rel.* The phonology is that of the verb's morphological root. Although she suggests that the *-bar* suffix does not have an independent lexical entry, it does contain its own phonology, categorial head and valence (subject and complements), and a CONTENT value, provided through structure sharing with that of the verb. Thus the lexical entry for the entire *-bar* adjective, following composition with its subcategorised verb, is illustrated in the feature structure (6.2) which is a productive schema for the formation of *-bar* adjectives.

[2]A schema in Riehemann (1998) relates to cluster of features in a type hierarchy

(6.2)

$$\left[\begin{array}{l} \textit{reg-bar-adj} \\ \text{PHONOLOGY } \boxed{1} + \textit{bar} \\ \text{MORPH-B } \left\langle \left[\begin{array}{l} \textit{trans-verb} \\ \text{PHON } \boxed{1} \\ \text{SYNSEM} \mid \text{LOC} \left[\begin{array}{l} \text{CAT} \mid \text{VAL} \mid \text{COMPS} \langle \text{NP[ACC]: } \boxed{2} \rangle \oplus \boxed{3} \\ \text{CONT—NUC } \boxed{4} \left[\begin{array}{ll} \text{ACT} & \\ \text{UND} & \boxed{2} \end{array}\right] \end{array}\right] \end{array}\right] \right\rangle \\ \text{SYNSEM} \mid \text{LOC} \left[\begin{array}{l} \text{CAT} \left[\begin{array}{ll} \text{HEAD} & \text{ADJ} \\ \text{VALENCE} & \left[\begin{array}{l} \text{SUBJ} \langle \text{ NP:} \boxed{2} \rangle \\ \text{COMPS } \boxed{3} \end{array}\right] \end{array}\right] \\ \text{CONTENT} \mid \text{NUCLEUS} \left[\begin{array}{ll} \text{RELN} & \diamond \\ \text{ARG1} & \boxed{2} \\ \text{ARG2} & \boxed{4} \end{array}\right] \end{array}\right] \end{array}\right]$$

The above feature structure is an illustration of the relationship between the morphological stem identified by the feature MORPH-B (morphological base) and the complex word. Through the various structure-sharings the feature structure specifies the relationship between the stem and the resulting complex word. In the CONTENT value of the verb, indexed $\boxed{4}$, the ACTOR is suppressed and the UNDERGOER is coindexed as the subject of the adjective. The COMPS argument indexed $\boxed{3}$, only appears in the case of a ditransitive verb conversion and may represent a possible LOCATIVE argument as suggested by Nightingale (1999). The CONTENT of the adjective contains the subject as ARG1 and the entire content of the verb's NUCLEUS as ARG2.

Reihemann's analysis centres on an explanation of syntactic and morphological phenomena of the complex *-bar* adjective and she makes use of Davis (1996)'s HPSG semantics in which the NUCLEUS of the transitive verb stem comprises an *unsaturated* ACTOR and *saturated* UNDERGOER argument.

Riehemann (1998)'s approach captures the fact that *-bar* adjectives are integral lexical morphemes compounded from two word forms, the contentive transitive verb and the *-bar* suffix. It is seen as a schema arising as a generalisation about existing *-bar* adjectives in the lexicon. The schema states how the adjectives are

formed as well as various syntactic and semantic properties and relations to the verbal stem.

6.3 Application of TBDM to Chishona applicatives

TBDM within HPSG literature has also been used to analyse causatives and passives as in Manning & Sag (1998), Manning, Sag & Iida (1999) and Manning & Sag (1999). I adopt TBDM to account for the Chishona applicative. Just like German *-bar* adjectives, I will analyse the applicative as a lexical property (generalisation) resulting in a morphological complex structure that can be found in the lexicon. I will first look at the morphological processes that leads to the general build up of applicatives in Chishona, the morphological types that the lexicon provides.

6.3.1 Morphological complexity of Chishona

Before presenting the relevant constraints, I will introduce the type hierarchy and the appropriateness conditions assumed in this analysis. In particular, I assume that the type *word* belongs simultenously to two compatible subtypes of *word*, *stem* and *lexeme*. The interpretation of the lexical hierarchy is that each word is cross-classified for the dimensions STEM and LEXEME. The LEXEME part of the hierarchy contains the familiar subclassification of words in terms of their major category, subcategorisation requirements and so on. On the other hand, the STEM part of the hierarchy defines the objects that undergo morphological processes.

The hierarchy further shows that the type *stem* has two further compatible subtypes, *simple stem* and *affixed stem*. I further show that the type *stem* has MORPH-B, morphological base, as an additional appropriate attribute with value *morph-b*. This indicates the basic morpheme which makes up a word. The morphological base provides the template for affixation mechanisms. The attribute MORPH-B is defined as appropriate for *stem* and it is inherited by both of its subtypes, as illustrated in the following lexical type hierarchy:

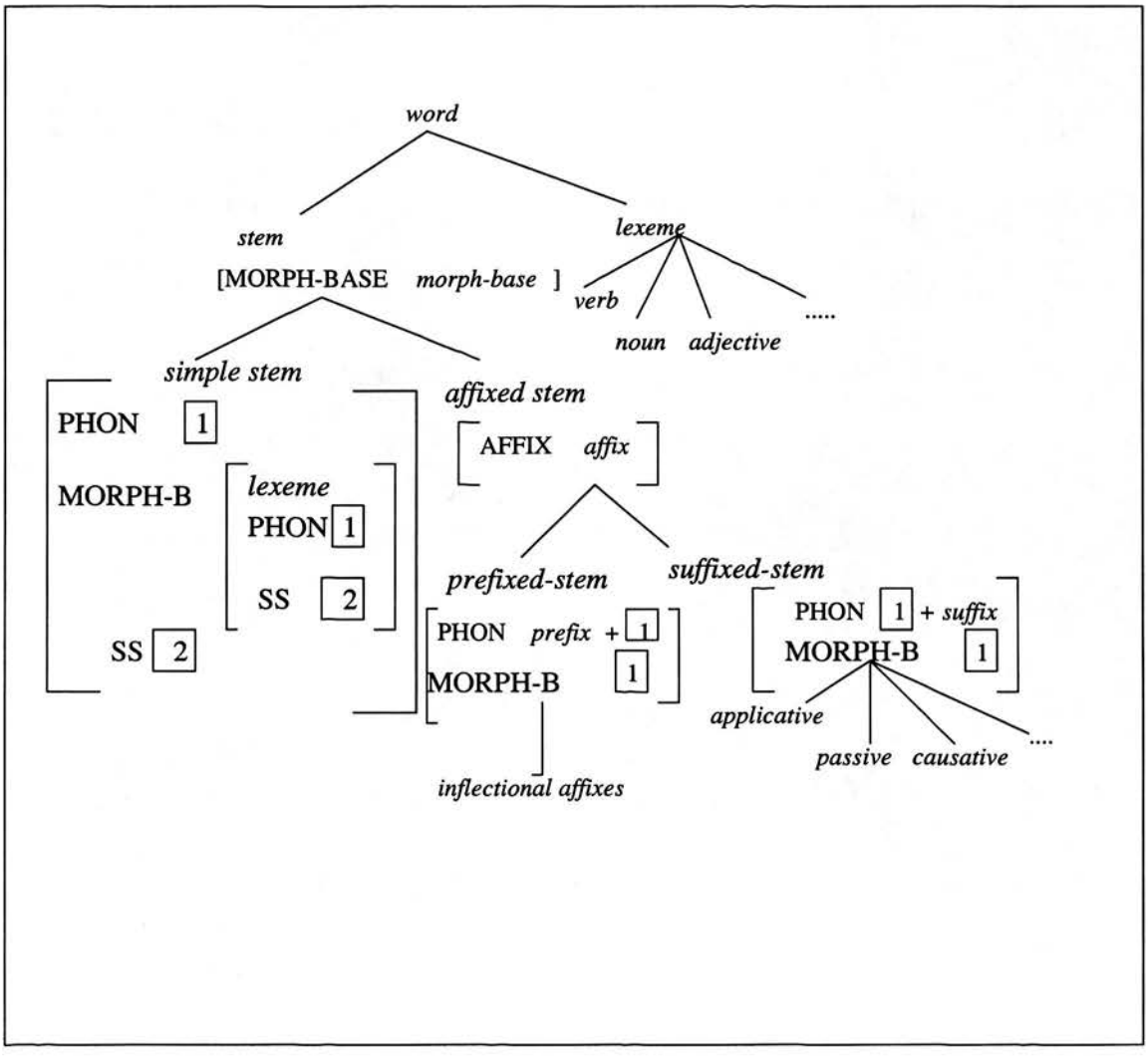


Figure 6.1: The morphological types

The objects of the simple stem are basic lexical entries which are not further analysed either in terms of inflection and derivational morphology. Objects of this type have no internal morphological structures and further do not have their own constraints. Thus as feature declarations, this type has PHON and SYNSEM attributes inherited from its supertype *sign*.

The type *affixed stem* has dual properties in that it inherits from the simple stem and the affixed stem. Objects of this type have an internal morphological structure, a *simple stem* and *affix*. In addition to the PHON and SYNSEM values inherited from its supertype, *sign*, objects of *affixed stem* will have an AFFIX attribute as well.

Within the analysis developed here, it is important to know the status of the attribute AFFIX. As noted in Riehemann (1993, 1998), Bird (1994) and Kim (1994), there are no compelling reasons to assume that affixes are grammatical objects in their own right. It is of course possible to assume that affixes are morphological heads and carry all the information such as subcategorisation as well as syntactic and semantic information as claimed by Krieger (1993). However, Marten (1999) and Mchombo (2000) have argued that the applicative suffix is not a morphological head. Moreover, treating suffixes as heads will be problematic in an account of lexicalised applicative verbs as shown in Chapter 3 and Chapter 4. Further, the mechanism of type declarations allow us to treat derivational morphology more economically if affixes are seen as partially instantiated word forms as argued for by Riehemann (1993, 1998), Bird (1994) and Kim (1994). By adopting this view, we define the attribute AFFIX to have the value *affix* which is defined to be just a morphophonemic PHON attribute as its value, and nothing else as in (6.3):

(6.3) $\left[\text{AFFIX PHON } \boxed{1}\right]$

The type *affixed stem* is further partitioned into two subtypes:

(6.4) $affix \Rightarrow prefix \vee suffix$

Information about ordering of affixes relative to the stem should be abstracted into a more general pair of statements (one for the suffixes and one for the prefixes) that will apply to all morphologically complex types:

(6.5)
$$\begin{bmatrix} \textit{prefixed stem} \\ \textit{prefix} + \text{PHON } \boxed{1} \\ \text{MORPH-B } \langle \begin{bmatrix} \text{PHON } \boxed{1} \end{bmatrix} \rangle \end{bmatrix}$$

This constraint states that prefixes come before the stem. Such prefixes in Chishona are mainly inflectional in nature and they are basically obligatory. Prefixes include subject markers, object markers, tense and mood, and so on for verb and noun prefixes indicated as noun classes for nouns as shown in Chapter 5.

(6.6)
$$\begin{bmatrix} \textit{suffixed stem} \\ \text{PHON } \boxed{1} + \textit{suffix} \\ \text{MORPH-B } \langle \begin{bmatrix} \text{PHON } \boxed{1} \end{bmatrix} \rangle \end{bmatrix}$$

What constraint (6.6) is saying is that the suffix comes after the morphological base. These include extensions like the applicative which are derivational in nature and are optional. Note that the affix lives only in the phonology. It is not a sign, therefore, it is not on the list of morphological bases. In order to accommodate compounds, the MORPH-B attribute is a list.

The main point of this type hierarchy is that each type has its own feature declaration, either inherited from its supertypes or assigned as its constraint. Also, such a hierarchy structures the lexicon and in this context by representing morphologically relevant subclasses of words explicitly. This results in the reduction of redundancies associated with lexical rules which would have stated every rule for all the different types. Having such a type hierarchy available makes it simple to account for word formation. The schemata that arise by virtue of this structuring function can then be used to account for productive word formation (Riehemann 1993).

6.3.2 The productive applicative schema

Applicative verbs bear a systematic phonological, morphological, syntactic and semantic relation to the verb stems from which they are formed. To generate applicative verbs one needs a node on the hierarchy that contains the information that

needs to be specified in any analysis of applicatives in Chishona which is:

- V-r- is suffixed to the PHONOLOGY of a basic stem
- the argument introduced by the applicative suffix is additional in nature
- the symmetrical nature of the two objects modulo animacy factors
- the single semantic interpretation, a *goal* relation.

The goal of this section is then to formulate an applicative schema that results in productive word formation associated with applicative verbs. This schema should contain constraints particular to this type and the other types that it is related to. The schema to be adopted here for the applicative construction in Chishona contains all the interacting properties of what it entails to being an applicative verb construction. I posit the following schema for the derivation of applicative verbs in Chishona:

(6.7)

$$\left[\begin{array}{l} V_{appl} \\ \text{PHON} \left[\begin{array}{l} \textit{suffixed stem} \\ \boxed{1}\textit{+-ir-/-er-} \end{array}\right] \\ \text{MORPH-B} \left\langle \left[\begin{array}{l} \text{PHON } \boxed{1} \\ \text{SYNSEM|LOC}\boxed{2} \end{array}\right] \right\rangle \\ \text{SYNSEM } |\text{LOC}\boxed{2} \left[\begin{array}{l} \text{CAT } |\text{VAL|OBJ}| \ [\ ] \bigcirc \ \text{NP}_{goal}| \\ \text{CONTENT } |\text{NUC } [\ ] + \left[\begin{array}{ll} \text{RELN} & \textit{goal} \\ \text{ARG1} & \textit{index} \\ \text{ARG2} & \textit{goal} \end{array}\right] \end{array}\right] \end{array}\right]$$

Several comments on this schema are needed. First, through various structure-sharings, the feature structure in (6.7) specifies the relationship between a basic stem and the resulting complex applicative word. In this proposal, constraint (6.7) is a general schema for the formation of applicative verbs within Chishona and it inherits from the suffixed stem as explained in subsection 6.3.1. Any verb that is applicative in nature has to inherit this information and the rest of the other constraints are filled in. Secondly, the applicative is not seen as a lexical rule or a transformational movement. Instead it is seen in terms of a schema arising as a generalisation over existing applicative verbs in the lexicon.

Thirdly, the schema states that semantically, there is an addition of a goal. Semantically, the CONTENT value of the applicative verb is complex. The CONTENT value of the verb is given by the addition of a *goal* relation to the semantics of the base form. ARG1 and ARG2 define the participants that are involved in the whole activity. ARG1 is underspecified and has an *index* as value which it needs to be instantiated (through pragmatics) as event or object of the verb stem to get the *goal* relation right, while ARG2 is specified with the value of *goal*. As shown by the tagged boxes, there is structure sharing, as explained in Chapter 5 between the *applied object* and ARG2. ARG2, in other words specifies the *goal* introduced by the applicative suffix itself. If we analyse the applicative as adding a goal relation to the semantics of the verb, then that covers both the common cases of applicatives and the special cases in which we do not have an additional argument, the lexicalised types. Such a generalisation explains all the different types of applicatives that we have.

Phonologically, the applicative suffix is added onto the morphological base of the verb with the morpho-phonological constraints as explained in Chapter 2. The PHON value of the morphological base (basic root if you like) $\boxed{1}$ is carried over to the output (the applicative form) as shown by the two occurrences of the value $\boxed{1}$.

In the spirit of Riehemann (1998), the applicative morpheme has no independent lexical entry but is articulated as a general schema in the type hierarchy of verbs which contains its own phonology, its own valence and its content value, provided through structure sharing with the content value of the morphological base. Since the applicative morpheme and the verb stem are both of type *verb* they both inherit features from the verb type hierarchy, roughly sketched in figure (6.2).

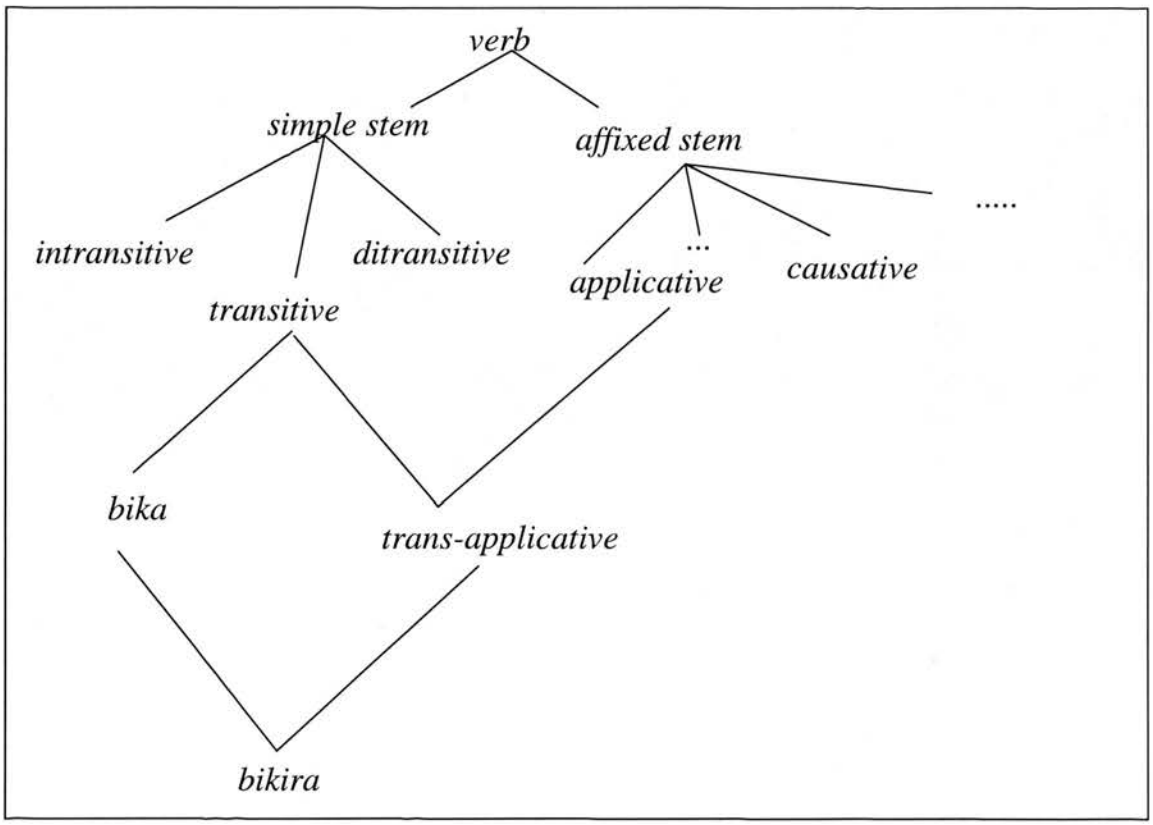


Figure 6.2: A verb type hierarchy

The verb stem *bika* inherits features from the transitive verb frame and gives rise to various different forms, including finite and non-finite inflected verbs. The applicative form inherits from *bika* and the applicative feature complex to yield the form *bikira*, 'cook for'. This can be made concrete as follows. The basic stem *bika*,'cook', need stipulate only the information shown in (6.8):

(6.8) $$bika\rightarrow \begin{bmatrix} \textit{v-stem \& simple-trans} \\ \text{CONTENT } \textit{cook-rel} \end{bmatrix}$$

where *verb stem* and *transitive* are distinct types associated with the constraints illustrated in (6.9a) and (6.9b):

(6.9) a. $$\begin{bmatrix} \textit{simple-trans} \\ \begin{bmatrix} \text{VAL}|\text{OBJ} \left\langle \text{NP} \right\rangle \end{bmatrix} \end{bmatrix}$$

b. $$\begin{bmatrix} \textit{verb-stem} \\ \begin{bmatrix} \text{HEAD } \textit{verb} \\ \text{SUBJ} \left\langle \text{NP} \right\rangle \end{bmatrix} \end{bmatrix}$$

A further constraint which is stipulated at the HEAD level is that all verbs invariably are constrained to have a SUBJECT as shown in chapter 5.

Within the CONTENT-rel the semantic roles are also formulated in terms of constraints on lexical types. The type *stv-lxm* (simple transitive lexeme) is a subtype of a two participant-argument type. This leads to the attribute ARG1 underspecified for the ACTOR role and ARG2 underspecified for the UNDERGOER role. These two participants being appropriate for *cook-rel*, and this classification, together with inheritance of the constraints already stipulated, means the stem *cook* inherits all the information shown in (6.10a):

(6.10) *bika*→

$$\left[\begin{array}{l}\text{SYNSEM}\left[\begin{array}{l}\text{SYN}\left[\text{CAT}\left[\begin{array}{l}\textit{simple-trans}\\ \text{HEAD } \textit{verb}\\ \text{SUB}\left\langle \text{NP}\boxed{1}\right\rangle\\ \text{OBJ}\left\langle \text{NP}\boxed{2}\right\rangle\end{array}\right]\right]\\ \text{SEM}\left[\text{CONTENT}|\text{NUC}\left[\begin{array}{l}\textit{cook-rel}\\ \text{ARG1 }\boxed{1}\\ \text{ARG2}\boxed{2}\end{array}\right]\right]\end{array}\right]\end{array}\right]$$

All these aspects of the basic strict transitive verb will be inherited by an applicative to formulate a typical ditransitive applicative verb. Using the Riehemann's (1998) schema, the applicative *bikira* inherits all the constraints associated with the input basic stem plus the constraints from the applicative node given in structure (6.7). The lexical entry for the entire applicative verb following composition with *bika*, 'cook', is illustrated in feature structure (6.11)

(6.11)

$$\left[\begin{array}{l}\textit{bikira}\\ \text{PHONOLOGY }\boxed{7}\left[\left[\ \boxed{1}\right]+\textit{-ir/-er-}\right]\\ \text{MORPH-B}\left\langle\left[\begin{array}{l}\textit{strict-trans}\\ \text{PHON }\boxed{1}(\textit{bika})\\ \text{SYNSEM }|\text{LOC}\boxed{4}\left[\begin{array}{l}\text{CAT }|\text{VAL}|\ \text{OBJ}\langle\text{NP}\boxed{2}\ \rangle\\ \text{CONT }|\text{NUC }\boxed{6}\end{array}\right]\end{array}\right]\right\rangle\\ \text{SYNSEM }|\text{LOC}\boxed{4}\left[\begin{array}{l}\text{SYN}\left[\text{CAT }|\ \text{VAL }|\text{OBJ}\langle\text{NP}\boxed{5},\text{NP}\boxed{2}\ \rangle\right]\\ \text{CONTENT }|\text{NUC }\boxed{6}+\left[\begin{array}{ll}\text{RELN} & \textit{goal}\\ \text{ARG1} & \textit{index}\\ \text{ARG2} & \boxed{5}\end{array}\right]\end{array}\right]\end{array}\right]$$

The schema specifies the relationships between the stem of the base verb and the resulting complex word. Syntactically the feature structure states that there is an additional object which has the value $\boxed{5}$. Since the base verb is a strict transitive verb as explained in Chapter 5, the SYNSEM output of the complex verb is $\boxed{2}$, the NP of the basic verb plus a shuffled in new object with an index value of $\boxed{5}$, a process that will be explained further in the next section.

Semantically, we have an addition of the goal relation to the basic verb and ARG1 is underspecified as an *index* value. This is because as explained at length in Chapter 4, a beneficiary applicative construction either denotes a goal relation between the applied object and the event of the predicate or the relationship between the logical object and the applied object. I have left this open by the use of an index value which can be interpreted as either $\boxed{6}$ or $\boxed{2}$, that is, as the event denoted by the verb or its object. The value to be supplied for this index is thus determined by pragmatic principles and are not specified within the syntax/semantics. ARG2 is specified as $\boxed{5}$, the *goal* itself. Thus the interpretation emphasised in this schema will be the location of the *index* at $\boxed{5}$.

Phonologically, the affix is added to the phonology of the verbal stem. This addition is concatenative in nature. However, phonological constraints include vowel harmony as described in chapter 2.

The stem above may be used as the basis for building the inflected words that serve as syntactic heads. The information sketched in (6.7) corresponds in all relevant respects to the information borne by the applicative when it functions like a lexical head in a syntactic phrase combining with objects according to the same principles that govern the non applicative heads as illustrated in Chapter 5.

The *goal* found in structure (6.7) as explained in Chapter 4 has the following relationship (a) the goal relation might be between the event of the verb and the applied object; (b) it can be a relationship between a logical object and an applied object; or (c) it can be a relationship between a speech act and the applied object. That is why ARG1 is underspecified in the structure since it instantiates any of these relations depending on the context.

The constraint given by the applicative schema in (6.7) neatly sums up how the applicative verb is formed in Chishona. Any verb of the type *applicative* found in Chishona is derived from that schema which the lexicon provides. This seems desirable since a lot of generalisations about the applicative are captured. Moreover, having this schema accounts for productive word formation : speakers presumably use this knowledge to form applicative patterns. The type hierarchy provides all the necessary types and constraints that the applicative schema can inherit from to formulate an applicative verb.

Such a schema is desirable because generalisations are expressed that would otherwise be lost, e.g. the *goal* relation that is introduced by an applicative suffix.

Treating the different instantiations of applicative verbs as distinct and discrete would miss this generalisation, the fact that all these different types are derived from a single underspecified semantic structure and also how they are systematically related. The advantage of such a schema is that we do not see applicatives as morphologically complex—meaning that the tiniest idiosyncrasy in a word has a consequence that needs to be listed without any connection to its stem and that none of the properties are predictable. This schema shows that there is a connection between the basic stem and the resulting stem and by utilising the type hierarchy all the properties associated with the applicative are predictable. The structure adopted above, in conjunction with the discussion in Chapter 4 accounts for the different semantic interpretations of the applicative construction. Given the *generalised goal* conclusion found in Chapter 4 means that the grammar does not need to specify anything further— it is all determined by pragmatics.

The next section focuses on how this schema can be utilised to account for the various syntactic patterns of applicative constructions within Chishona. Syntactically, applicative constructions have two discernible patterns, in one pattern both objects are direct objects and in another pattern it is only the applied object which is a direct object. In the next section, I will focus on how to account for the symmetrical pattern using HPSG.

6.4 The symmetrical nature of the applicative arguments

By now it should be clear from the feature structure of the underspecified applicative verb that the generalised goal relation resulting in different senses associated with the applicative is motivated. However, there is still an issue that was raised in Chapter 2, that needs to be addressed. The structure given above, as will be shown, makes the assumption that the two objects are symmetrical in nature but as shown in section 2.5, Chishona beneficiary applicative constructions are not only sensitive to grammatical factors but are sensitive to pragmatic/discourse factors like animacy. Given this sensitivity, in Chapter 2 we concluded that Chishona is both a symmetrical and an asymmetrical language. The *feature structure* found in example (6.7) has served us well in explicating the different interacting properties which define an applicative construction. In the next sections I will continue to utilise these feature structures in addition to some principles and operators in order to account for the different syntactic patterns observable from the data given so far.

6.4.1 Word order

Word order is a descriptive term referring to the linear order of words in a linguistic string. However, linguistic strings are organised hierarchically in constituents. Some ordering restrictions can be attributed as constraints on constituents. I will focus on the order of postverbal objects within well-formed constituents. Syntactic constraints on word order define the order of syntactic categories: the relative order between the head and its complements, objects in my case, a subject and the syntactic head and so on. In this thesis I am interested in the relative order between the head (verb) and the objects that it subcategorises for. A fundamental assumption within HPSG is that some *signs* act as HEADS and share certain features with their phrasal projections as explained in Chapter 5. In the lexicon, heads are specified with their subcategorisation requirements which indicate what constituents the heads have to combine with to form phrasal projections. The presence of subcategorisation information in the lexicon reduces the number of the required IMMEDIATE DOMINANCE (ID) schemata which are roughly analogous to traditional phrase structure rules as explained in Chapter 5.

Linear Precedence Rule

The feature that encodes information about what arguments a verb takes are the VALENCE feature with the attributes SUBJ and OBJ. Though I have not said much about the linear ordering of arguments found within an applicative construction, by placing elements on the OBJ list there is an assumption that there is an order in which they are ordered. Since the information to do with ordering of the the arguments is found within the feature VALENCE, formalisation of word order will be encoded on this feature.

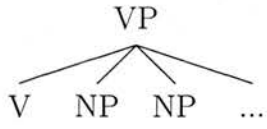
Within HPSG word order is captured by *linear precedence rule* (henceforth LPR), defining the order within a well formed phrasal structure (Pollard & Sag(1987, 1994) and Sag & Wasow (1999)). LPR is a universal principle within languages and when all other things are equal it operates in all languages in one form or another. Phrase structures are manifested through an attribute DAUGHTERS (DTRS), which includes the HEAD DTR along with list valued SUBJECT DTR and object OBJ DTR. For example, as described in Chapter 5, the following LPR on *head-object-phrases* states that a verbal head should precede its objects:

(6.12) Linear Precedence Rule for postverbal object (Rule 1)

$$\textit{head-object-phrase} \longrightarrow \text{HEAD-DTR} \ll \text{OBJ-DTR...} \Rightarrow \text{H}\left[\begin{array}{l}\textit{word} \\ \text{OBJ} \left\langle \boxed{1}, \ll \ldots, \ll \boxed{n} \right\rangle\end{array}\right]$$

The consequence of this linear ordering is that a phrase consists of a lexical head followed by all its objects as explained in Chapter 5. Given this I will assume a flat structure analysis for Chishona[3]. Given the rule above we have the following flat structure, where objects are sisters to the verb:

(6.13)



Subjects are ordered with respect to their heads by the following LPR on *subject-head-phrase*. The LPR in (6.14) states that subjects should precede their heads:

(6.14) Linear Precedence Rule for Subjects

$$\textit{subject-head-phrase} \longrightarrow \text{SUBJECT-DTR} \ll \text{HEAD-DTR} \Rightarrow \boxed{1}\text{H}\left[\begin{array}{l}\textit{word} \\ \text{SUBJ} \left\langle \boxed{1} \right\rangle\end{array}\right]$$

The LPR given above is an example of syntactic constraints on word order and they apply to specific constituents which make up sentences. Violations of the LPR lead to ungrammaticality as demonstrated in Chapter 5. However, as shown in Chapter 2, in Chishona the subject can in certain circumstances appear after the verb and the object, when the verb is object marked, the subject is free to appear in any position. In this thesis I am interested in canonical positions of the object, that is the position immediately after the verb.

Within linguistic literature, different writers since Fillmore (1968) have tried to develop the notion that arguments of a predicate have distinct semantic roles associated with them, and these roles have an order which does not always accord

[3]HPSG in principle allows both binary and flat structures. Note that a binary structure would require some amendment to the mechanics of the analysis but would not affect the basic assumptions

with the surface syntactic order. Jackendoff (1972)[4] assumes distinct roles and orderings. For example, Bresnan & Kanerva (1989) suggest a thematic hierarchy in which agents are the most prominent followed by beneficiaries and so on as illustrated in example (6.15). In other words, the roles in the following hierarchy are ordered according to thematic obliqueness.

(6.15) ag $\ll$ ben $\ll$ recip/exp $\ll$goal $\ll$ inst $\ll$ th/pat $\ll$ loc

Attempts have been made to get a grammatical hierarchy based on the semantic hierarchy in 6.15. Mapping grammatical relations with this hierarchy entails the lexicalisation of relations. Thus the underlying assumption is that whenever a predicate has any two or three of these roles, the role which is more prominent (or less oblique) in the hierarchy as indicated by $\ll$ is lexicalised as the subject and the more oblique roles are lexicalised as objects. Thus a predicate such as 'cook' has Agent and Theme roles and the Agent is the subject while the theme is the direct object. In applicative constructions then the *goal* argument is the most prominent and the theme/patient is the most oblique. If there is a one to one mapping between thematic hierarchy as given in (6.15) with grammatical relations, this is what one is most likely to come up with, with the subject being the least oblique, followed by the primary object and so on:

(6.16) SUBJ$\ll$PRIMARY OBJECT$\ll$SECONDARY OBJECT$\ll$OTHERS

In a like manner, for multiple object constructions like the applicative construction, we have the following mapping:

(6.17) SUBJ $\ll$ APPLIED OBJECT$\ll$LOGICAL OBJECTS$\ll$OTHERS

in which the applied object is more prominent than the logical object. The two orders illustrated above correspond closely to the semantic roles of the objects. The subjects appear first (leftmost), followed by other arguments leading to the following linear precedence rule:

(6.18) Linear Precedence Rule for multiple postverbal object constructions

head-object-phrase$\Rightarrow$HEAD-DTR$\ll$ NP$\boxed{1}$ $\ll$ NP$\boxed{2}$ $\ll$OTHERS

[4]See also Gruber (1976), Foley & Van Valin (1984), Bresnan & Kanerva (1989) and Grimshaw (1990) for similar arguments

This rule reflects obliqueness in the order of the postverbal objects as shown by $\ll$ which designates a special kind of restricted linear precedence constraint which is only in force when the left hand element is less oblique than the right hand element. This schemata ensures that NP_1 will precede NP_2 , given the assumption that NP_2 is more oblique than NP_1.

Initially, in explaining the symmetrical pattern of double object constructions, I will assume that the postverbal order of objects in Chishona is unconstrained. As shown in chapter 2, the applied object is always additional. In accounting for this additional nature of the applicative construction I make use of a shuffle operator $\bigcirc$ as illustrated in structure (6.7) as well as the linear precedence rule, NP$\ll$NP as given in (6.18) which reflects obliqueness. Shuffling corresponds to inserting the argument at any place in the OBJ list. Here $\bigcirc$ designates 'sequence union' or shuffle operation employed by Reape (1994) and Kathol (1995). The formal definition of the shuffle operation is as follows: "Given a list A of length m and a list B (disjoint from A) of length n, then 'A $\bigcirc$B' designates the family of lists of length m+n such that (1) the members of A $\bigcirc$B are the set union of the members of A and the members of B, and (2) if X precedes Y in A or in B, then X precedes Y in 'A $\bigcirc$ B' " (Miller & Sag (1997)). In other words, if A = {a, b}, B={c} then A $\bigcirc$ B = {a, b, c}, {a, c, b}, {c, a, b}. This shows the possible combinations of set unions made available by the shuffle operator. Thus sentences (6.19a) and (6.19b) maintain the same interpretation:

(6.19) a. Kundishora a-ka-bik-ir-a Vimbayi sadza
1a-name 1SM-PST-cook-APPL-FV 1a-name 5-*sadza*
'Kundishora cooked *sadza* for Vimbayi'

b. Kundishora a-ka-bik-ir-a sadza Vimbayi
1a-name 1SM-PST-cook-APPL-FV 5-*sadza* 1- name
'Kundishora cooked (for) Vimbayi *sadza*'

For an applicative sentence as illustrated above, with an applicative verb like *bikira*, 'cook for', the shuffle operator gives us two object value orders:

(6.20) a. $\left[\text{OBJ} \left\langle \text{NP}_{Vimbayi}, \text{NP}_{sadza} \right\rangle\right] \Rightarrow \left[\text{OBJ} \left\langle \text{NP}_{AO}, \text{NP}_{LO} \right\rangle\right]$

b. $\left[\text{OBJ} \left\langle \text{NP}_{sadza}, \text{NP}_{Vimbayi} \right\rangle\right] \Rightarrow \left[\text{OBJ} \left\langle \text{NP}_{LO}\ \text{NP}_{AO} \right\rangle\right]$

The linear precedence rule as stated in (6.18) will give rise to the order SUBJ V AO LO as exemplified in (6.19a), illustrated in (6.20a) and SUBJ V LO AO as shown

in (6.19b) and illustrated in (6.20b). This is because the shuffle operator permits either the AO or the LO to be least oblique resulting in the two orders. This shows that when we have non-co-animate cases, the linear precedence rule is trivial since its effects are obscured by the shuffle operator.

What is important to note though is that even if the two objects can on the surface have different realisations the CONTENT of the applicative verb *bikira*, 'cook for' remains constant.

(6.21)

$$\left[\begin{array}{l} \textit{bikira} \\ \text{PHONOLOGY } \boxed{1} + \textit{-ir/-er-} \\ \text{MORPH-B } \left\langle \left[\begin{array}{l} \textit{strict-trans} \\ \text{PHON } \boxed{1} \\ \text{SYNSEM } |\text{LOC}\boxed{4} \left[\begin{array}{l} \text{CAT } |\text{VAL}| \text{ OBJ}\langle \text{ NP}_{\boxed{2}} \rangle \\ \text{CONT } |\text{NUC } \boxed{6} \end{array}\right] \end{array}\right] \right\rangle \\ \text{SYNSEM } |\text{LOC}\boxed{4} \left[\begin{array}{l} \text{SYN } \left[\text{CAT } | \text{ VAL } |\text{OBJ}\langle \text{NP}_{\boxed{5}}, \text{ NP}_{\boxed{2}} \rangle\right] \\ \text{CONTENT } |\text{NUC } \boxed{6} + \left[\begin{array}{ll} \text{RELN} & \textit{goal} \\ \text{ARG1} & \textit{index} \\ \text{ARG2} & \boxed{5} \end{array}\right] \end{array}\right] \end{array}\right]$$

This illustrates the pattern in (6.19a) in which the applied object *Vimbayi* comes immediately after the verb.

The content value remains constant and does not change at all as shown by the same interpretation of the two sentences and the unacceptability of the sentence **Kundishora cooked Vimbayi for sadza* as explained in Chapter 2. The interaction of the shuffle operator and the linear precedence rule explains the symmetrical pattern of the two objects found within a canonical applicative construction as demonstrated in Chapter 2. Object marking and passivisation follows from this as will be explained in the following subsections.

Contrast the behaviour of Chishona, with a language like Chichewa in which the applied object is fixed to occur immediately after the verb as shown in Chapter 3 and illustrated in (6.22) from Mchombo & Firmino (1999:5):

(6.22) a. A-lenje a-ku-phik-ir-a a-nyani zi-tumbuwa
2-hunters 1SM-PRES-cook-APPL-FV 2-baboons 8-pancakes
'The hunters are cooking (for) the baboons some pancakes'

b. *A-lenje a-ku-phik-ir-a zi-tumbuwa a-nyani
2-hunters 1SM-PRES-cook-APPL-FV 8-pancakes 2-baboons

The difference between Chishona and Chichewa can be seen as in the manner in which the applied object is added. In a language like Chichewa it is an append operation rather than a shuffle operation. Within standard HPSG objects are constrained to be appended in terms of obliqueness[5]. This means that within applicative constructions two arguments found within the construction are constrained to appear in the order AO LO through obliqueness (linear precedence rule) and append $\oplus$ operator resulting in only (6.24a) object value list being grammatical and (6.24b) being unacceptable:

(6.24) a. $\left[\text{OBJ} \left\langle \text{NP}_{ao} \ll \text{NP}_{lo} \right\rangle\right]$

b. *$\left[\text{OBJ} \left\langle \text{NP}_{lo} \ll \text{NP}_{ao} \right\rangle\right]$

This means that the two arguments found within double object constructions in Chichewa are constrained to appear in the order illustrated in (6.24a). This shows that objects in Chichewa are constrained. In an append relation the relative order is important and it has to reflect the obliqueness within the linear precedence rule. Thus as reflected in example (6.24b), the order LO AO is ungrammatical and this is confirmed by the unaccepatibility of example (6.22b). Hence within Chichewa both the append operator and the linear precedence rule constrain the two objects to be fixed as illustrated in the following feature structure:

[5]Append, unlike the shuffle operator emphasises the linear precedence of objects in terms of obliqueness associated with the thematic hierarchy. Thus if we have A={a}, B={b} then A $\oplus$ B = {a, b} and A $\oplus$ B $\neq$ {b, a} This is because within an append relation, the order of elements matters. Thus in a language like English, where word order matters we find that a beneficiary construction like (6.23a) has a fixed order:

(6.23) a. Obert baked Tsitsi a cake
b. *Obert baked a cake Tsitsi

If we have *a cake* as the least oblique we see that it becomes unacceptable as illustrated in (6.23b). This is because on the obliqueness hierarchy, *Tsitsi* as the beneficiary is more prominent than the theme/patient cake.

(6.25)

$$\left[\begin{array}{l} \textit{phikira} \\ \text{PHONOLOGY } \boxed{1} + \textit{-ir/-er-} \\ \text{MORPH-B } \left\langle \left[\begin{array}{l} \textit{simple-trans} \\ \text{PHON } \boxed{1} \\ \text{SYNSEM } |\text{LOC}\boxed{4} \left[\begin{array}{l} \text{CAT } |\text{VAL}| \text{ OBJ}\langle \text{NP}_{\boxed{5}} \rangle \\ \text{CONT } |\text{NUC } \boxed{6} \end{array}\right] \end{array}\right] \right\rangle \\ \text{SYNSEM } |\text{LOC}\boxed{4} \left[\begin{array}{l} \text{SYN } \left[\text{CAT } | \text{ VAL } |\text{OBJ}\langle \text{NP}\boxed{2}, \text{ NP}_{\boxed{5}} \rangle\right] \\ \text{CONTENT } |\text{NUC } \boxed{6} + \left[\begin{array}{ll} \text{RELN} & \textit{goal} \\ \text{ARG1} & \textit{index} \\ \text{ARG2} & \boxed{2} \end{array}\right] \end{array}\right] \end{array}\right]$$

This shows that the parameter of difference between Chichewa and Chishona is in the use of different types of additions of the applied object to a sentence. In Chichewa it is append while in Chishona it is shuffle. Multiple objects in Chichewa are constrained to appear in an order of obliqueness while objects in Chishona are not constrained as such.

6.4.2 Object marking

Object marking on verbs will be considered as examples provided in the lexicon and used in phonology and morphology for the realisation of the object marked verb. I will assume that object marking is a lexical generalisation which has both a syntactic/semantic effect and a morphological one (For a similar analysis one is referred to (Monachesi 1998) for Romanian and (Miller & Sag 1997) for French). The syntactic/semantic contribution of pronominalisation (object marking) is reflected in the fact that object markers satisfy the subcategorisation requirements of the verb they are an argument of as illustrated below and explained in Chapter 2.

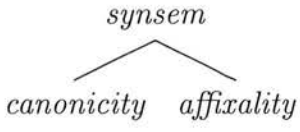
(6.26) a. Emmanuel a-ka-p-a Hendrina mari
1a-name 1SM-PST-give-FV 1a-name 9-money
'Emmanuel gave Hendrina some money'

b. Emmanuel a-ka-mu-p-a mari
1a-name 1SM-PST-1OM-give-FV 9-money
'Emmanuel gave her some money'

The analysis developed in this section treats object marked verbs as lexical pronominal affixes, whose ordering is monotonic in nature. Phonologically, a prefix is added onto the verb in a templatic fashion as in *realisational morphology* which looks at positional classes of inflectional and derivational morphology (Stump 1991 and Stump 1992). The presence of a pronominal affix causes a systematic change in the verb's combinatoric potential. Furthermore, object marked verbs are treated as valence-reduced realisations of verbal lexemes—which enter the syntax fully inflected (Miller & Sag (1997)).

In this section, object marking is analysed in terms of a distinction between two types of verbal realisations. The first type is the *plain word*, and within this type each element of the verb's VALENCE list corresponds to an overt phrase that combines with the verb syntactically (that is, locally in a head object or subject head structures as discussed in Chapter 5). Words of the second type are *pronominalised words*, which is the type that has at least one argument that is realised affixally rather than syntactically. Verbal forms within Chishona give rise to both kinds of inflected words and as a consequence, there is a systematic absence of overtly realised arguments in the presence of a corresponding pronominal affix. As explained in chapter 5, in order to guarantee the presence of the appropriate affixes in the phonological form of *pronominalised words*, our analysis relies on the assumption that the *synsem* objects are classified into the following two subtypes as given by Abeille, Godard & Sag (1997):

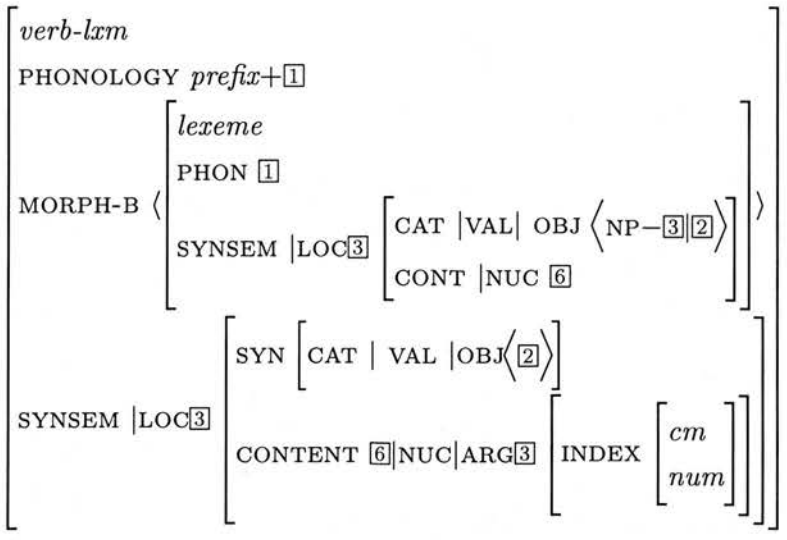
(6.27)



Here as explained in Chapter 5, the *canonical synsem* is the type that is associated with all signs and the *affixality synsem* corresponds to arguments that are not realised as a local syntactic dependent of the head. In Chapter 5, pronominalisation was argued to be arguments that are absent from any valence list. Pronominalised words signal that an element is missing from the corresponding phrase. As discussed in Chapter 2, intransitive verbs cannot be object marked since there is no corresponding object. This means that transitive, ditransitives and tritransitives within Chishona are the verbal forms subject to object marking.

The type *object-marked word* is subject to the constraint shown in (6.28):

(6.28)

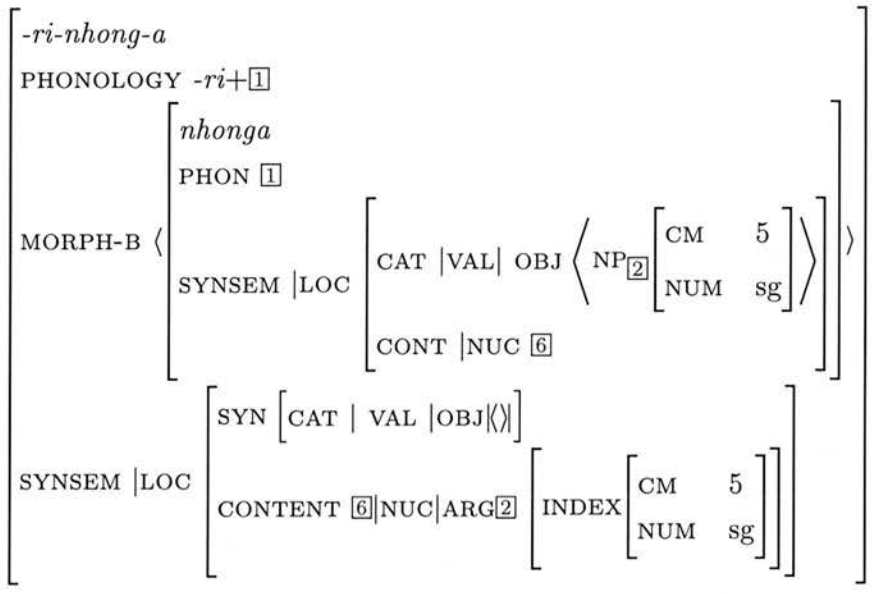


This constraint guarantees that one of the objects found on the object list is not overtly realised. It should only be realised in the CONTENT value as a referential pronoun. Such a constraint guarantees that the output OBJ list of the object marked verb is empty. This shows that the VALENCE list is reduced. The constraint above can be exemplified by the following sentence (6.29) which is given as feature structure (6.30):

(6.29) a. Ma-dzimayi$_i$ a-ka-nhong-a donje$_j$
6-woman 6SM-PST-pick-FV 5-cotton
'Women picked cotton'

b. Ma-dzimayi$_i$ a-ka-ri$_j$-nhong-a
6-woman 6SM-PST-5OM-pick-FV
'Women picked it(cotton)'

(6.30)



The object-marked verb, nhonga, 'pick', inflected by *-ri-* has the appropriate distribution: its valence list is reduced and it's CONTENT value is augmented by some index whose properties are determined by the prefix.

Object markers on verbs should be thought of in contrast to syntactically independent pronouns which they can replace and which are *signs* and hence always have a SYNSEM value of type *canon* as explained in Chapter 5. Independent pronouns behave like lexical noun phrases as shown in Chapter 2.

Within object marked verbs we find two types, the *regular type* as shown above as well as the *focused type*. Constraints for the *focused type* are illustrated below:

(6.31)

$$\left[\begin{array}{l} V_{focusedobjectmarked-lxm} \\ \text{PHON } [\,] +\boxed{5} \\ \text{SYNSEM } |\text{LOC} \left[\begin{array}{l} \textit{trans-lxm} \\ \text{CAT } |\text{VAL}|\ \text{OBJ}\langle\ \text{NP}_{\boxed{4}}\ \rangle \\ \text{CONTENT } \boxed{3} \end{array}\right] \\ \text{SYNSEM } |\text{LOC} \left[\begin{array}{l} \text{CAT } |\text{VAL}|\ \text{OBJ}\langle\ \text{NP}_{\boxed{4}}\ \rangle \\ \text{CONTENT } |\text{NUC } \boxed{3} \left[\text{ARG } \boxed{4} \left[\text{INDEX} \left[\begin{array}{l} \textit{cm} .. \\ \textit{num} .. \end{array}\right]\right]\right] \\ \text{CONX}|\text{INFO-STRUCT}|\text{FOCUS } \boxed{4} \end{array}\right] \end{array}\right]$$

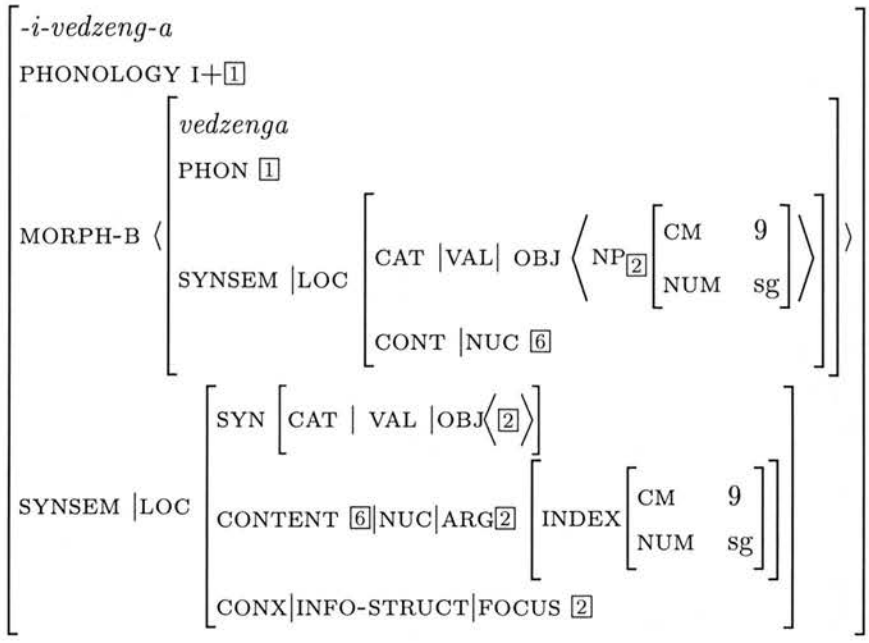
Structure (6.31) shows that within this type the object list is not reduced. What these constraints show is that the valence list is the same, the only difference is in terms of interpretation. As can be seen from the structure above, focus is part of information structure and this within HPSG is part of CONTEXT field rather than the CONTENT field. In effect, this means that information structure is viewed, in principle, as independent from the meaning, as a communicative device[6]. A lexical entry for a focused type is illustrated in feature structure (6.33) exemplified by sentence (6.32):

(6.32) Tanga$_i$ a-ka-i$_j$-vedzeng-a nyama$_j$
1a-name 1SM-PST-9OM-slice-FV 9-meat
'Tanga sliced it, the meat.'

With *nyama*, 'meat', being the focused element since it is object marked on the verb as *-i-* and then is overtly expressed as well.

[6]There have not been any developments to show how the interaction between information structure and the logico-semantic content is affected (Engdahl (1996)). The issue is still currently under investigation within HPSG.

(6.33)



In order to pronominalise the right object, a restriction is needed to ensure that the right object has been object marked and the constraint is that the first object on the OBJ list is the one that has to be removed from the valence list.

This constraint means that in terms of position, it is the first object on the list that has to be removed. This means that if the verb has two objects in its OBJ list as $\text{NP}_{\boxed{1}} \ll \text{NP}_{\boxed{2}}$, then $\text{NP}_{\boxed{1}}$ is the element that is marked by the object marker. This restriction is needed since it has the effect of ensuring that the right object is object marked[7].

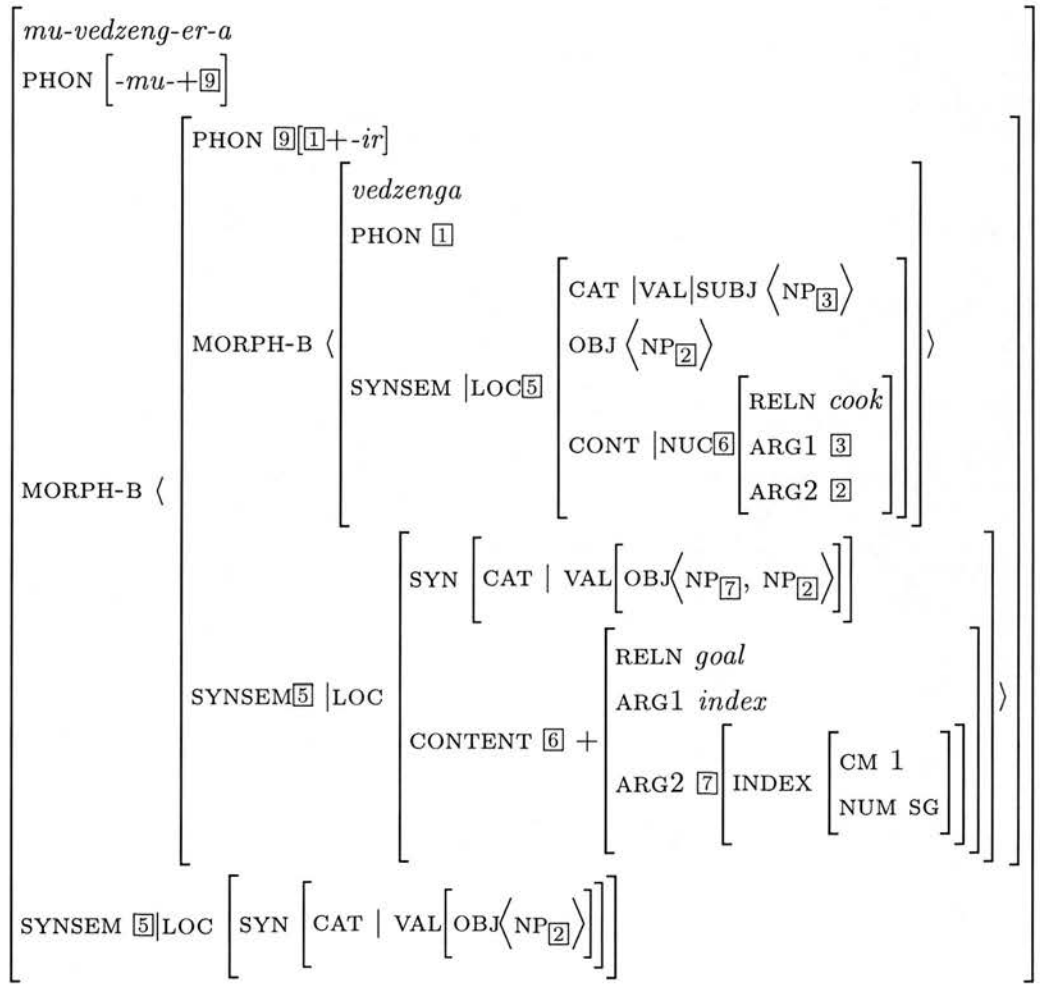
The following constraints hold for an applicative object-marked verb as illustrated in sentence (6.34) and illustrated in (6.35). As described in Chapter 5, morphology within Chishona is recursive. This is indicated by tags being passed over in forming complex morphological objects.

(6.34) a. Tanga a-ka-vedzeng-er-a mw-ana$_{AO}$ nyama$_{LO}$
1a-name 1SM-PST-slice-FV 1-child 9-meat
'Tanga sliced meat for mother'

[7]This constraint is trivially true for transitive examples (since the sole member of a one membered set is necessarily initial)

b. Tanga a-ka-mu$_{AO}$-vedzeng-er-a nyama$_{LO}$
1a-name 1SM-PST-1OM-slice-APPL-FV 9-meat
'Tanga sliced meat for her'

(6.35)



With multiple object constructions, the first element schema states that it is the first element on the OBJ list to be removed. Because of the shuffle operator, we get an arbitrary choice as to which can be object marked, since the shuffle operator permits either the AO or the LO to be the first elements on the object list as explained in the word order section. The shuffle operator picks on the first element.

6.4.3 Passivisation

Passivisation is also encapsulated in terms of the lexical hierarchy and just like object marking it is also treated as a valence reducing process as discussed in Chapter

2. When a verb is transitive and undergoes passivisation, this entails that the object list is empty since the object is removed; if the verb is ditransitive, then the object list has one element and so on. Chishona intransitive verbs cannot be passivised. Passive verbs are thus subject to constraint (6.36):

(6.36)

$$\left[\begin{array}{l} \textit{pass-lxm} \\ \text{PHON } \boxed{0} + \textit{-wa} \\ \text{MORPH-B} \left[\begin{array}{l} \textit{trans-lxm} \\ \text{PHON } \boxed{0} \\ \text{SYNSEM|LOC}\boxed{6} \left[\text{CAT|VAL} \left[\begin{array}{l} \text{SUBJ}\left\langle \text{NP}\boxed{1} \right\rangle \\ \text{OBJ } \left\langle \text{NP}\boxed{3}, \boxed{2} \right\rangle \end{array}\right]\right] \\ \text{CONT } \boxed{4} \end{array}\right] \\ \text{SYNSEM } \text{|LOC}\boxed{6} \left[\begin{array}{ll} \text{CAT } \text{|VAL} & \left[\begin{array}{l} \text{SUBJ } \left\langle \text{NP}\boxed{3} \right\rangle \\ \text{OBJ } \left\langle \boxed{2} \right\rangle \\ \text{OBL } \left\langle \text{NP}\boxed{1}_{na} \right\rangle \end{array}\right] \\ \text{CONT } \boxed{4} & \end{array}\right] \end{array}\right]$$

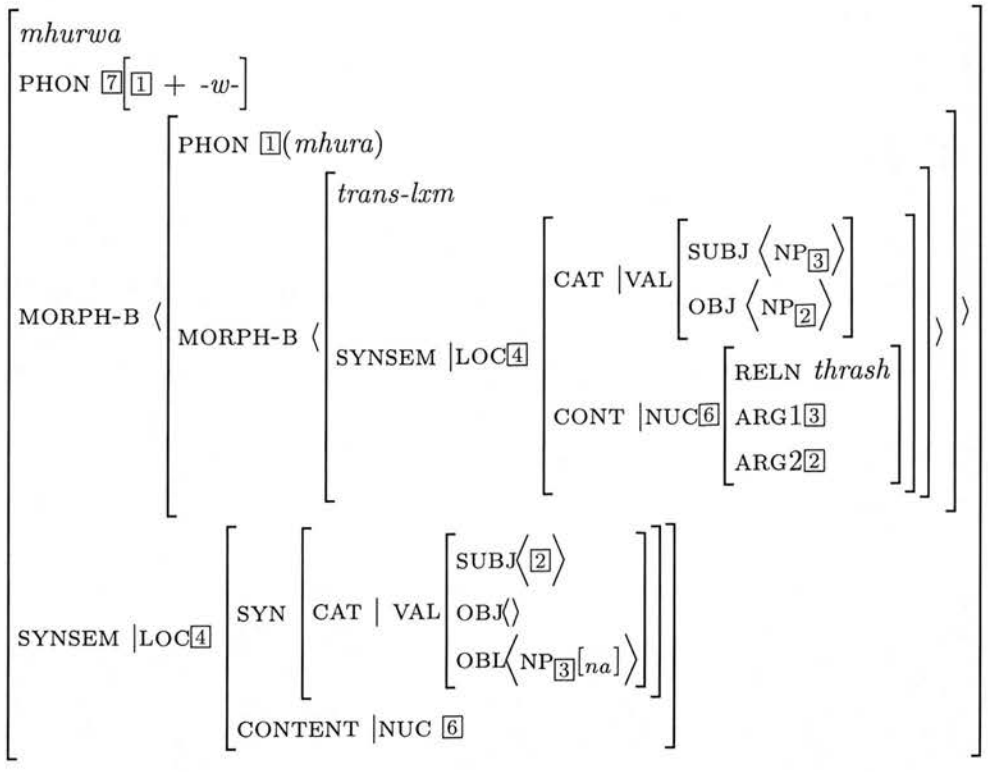
What this structure is saying is that some element marking an object $\boxed{3}$, is removed from the object list and in its passive counterpart becomes the subject and the original subject becomes an oblique. This is shown by the reduced object list as well as the oblique list.

The following example is typical of passivised words allowed by our analysis as illustrated by the passive sentence in (6.37) with a feature structure in (6.38):

(6.37) a. Ma-purisa a-ka-mhur-a va-dzidzi
6-police 6SM-PST-beat-up-FV 2-student
'The police thrashed students.'

b. Va-dzidzi va-ka-mhur-w-a ne-ma-purisa
2-student 6SM-PST-beat-up-PASS-FV by-6-police
'Students were thrashed by police'

(6.38)



This schema specifies the relationships between the stem and the resulting complex word. Syntactically, the schema states that the verb's first object becomes the subject of the passive verb. More precisely, the direct object of the input verb becomes the subject of the output corresponding complex verb.

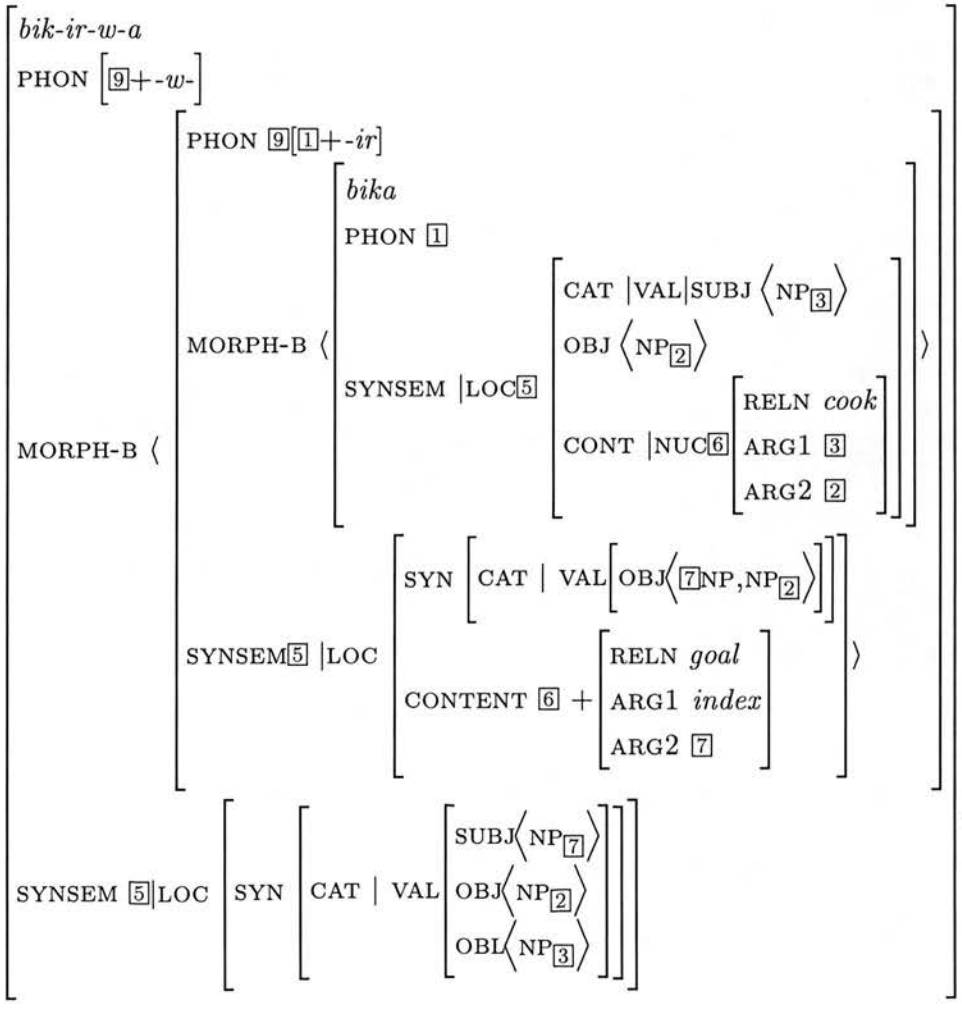
As to ensure that the right object is passivised there is need for a constraint and just like in the object marking rule it is the first element on the object list that is passivised. Hence the constraint is the first object to appear on the object list is the one to be passivised and therefore removed from the valence list.

For a passivised applicative verb stem as illustrated in (6.39) the feature structure in (6.40) satisfies what it entails being that type for a complex verb like *bikirwa*. This system allows for complex and recursive derivation because morphological complex words can be viewed as independent words that form part of the complex one.

(6.39) a. Tanga a-ka-bik-ir-a v-ana$_{AO}$ sadza$_{LO}$
1a-name 1SM-PST-cook-APPL-FV 2-child 5-sadza
'Tanga cooked sadza for the children'

b. V-ana$_{AO}$ va-ka–bik-ir-w-a sadza$_{LO}$ na-Tanga
2-child 2SM-PST-cook-APPL-PASS-FV 5-sadza by-1a-name
'Children were cooked sadza for by Tanga'

(6.40)



Such a complex derivational schema should be read as saying the basic and the applicative lexemes of the SOURCE type licenses additional lexemes of the complex OUTPUT type. Just as stated above, this schema through various structure sharings highlights the fact that the first object on an object list of the applicative type, becomes the subject of the applicative passive verb. This can be seen from the summation in (6.41) :

(6.41) a. *basic stem*⇒ [SUBJ ⟨3⟩, OBJ⟨2⟩]

b. *applicative stem*⇒ $\begin{bmatrix} \text{SUBJ}\langle \boxed{3} \rangle \\ \text{OBJ}\ \langle \boxed{7}\boxed{2} \rangle \end{bmatrix}$

c. *passive-applicative stem*⇒ $\begin{bmatrix} \text{SUBJ}\langle \boxed{7} \rangle \\ \text{OBJ}\langle \boxed{2} \rangle \\ \text{OBL}\ \langle \boxed{3} \rangle \end{bmatrix}$

Within the passive-applicative verb, we can see that the object list is reduced in number. The entry is not simply listed as is shown by structure sharing which indicates what is inherited in order to come up with a morphologically complex structure. Any passive structure shows that the valence list is reduced.

Because of the shuffle operator and linear precedence rule we get an arbitrary choice as to which object can be passivised as illustrated in (6.39 repeated here as (6.42)

(6.42) a. Tanga a-ka-bik-ir-a v-ana$_{AO}$ sadza$_{LO}$
1a-name 1SM-PST-cook-APPL-FV 2-child 5-sadza
'Tanga cooked sadza for the children'

b. V-ana$_{AO}$ va-ka-bik-ir-w-a sadza$_{LO}$ na-Tanga
2-child 2SM-PST-cook-APPL-PASS-FV 5-sadza by-1a-name
'Children were cooked sadza for by Tanga'

c. Sadza$_{LO}$ ra-ka-bik-ir-w-a v-ana$_{AO}$ na-Tanga
5-sadza 2SM-PST-cook-APPL-PASS-FV 2-child by-1a-name
'Sadza was cooked for the children by Tanga'

Since the shuffle operator permits either the AO or the LO to be the first on the OBJ list as explained in the word order section. Given this, the shuffle operator in turn allows either the AO or the LO to be the subject of a passive construction, since the shuffle operator picks on the first element as illustrated in 6.43a and 6.43b.

(6.43) a. $\begin{bmatrix} \text{SUBJ}\ \langle \text{NP}_{vana} \rangle \\ \text{OBJ}\ \langle \text{NP}_{sadza} \rangle \end{bmatrix} \Rightarrow \begin{bmatrix} \text{SUBJ}\ \langle \text{NP}_{ao} \rangle \\ \text{OBJ}\ \langle \text{NP}_{lo} \rangle \end{bmatrix}$

b. $\begin{bmatrix} \text{SUBJ}\ \langle \text{NP}_{sadza} \rangle \\ \text{OBJ}\ \langle \text{NP}_{vana} \rangle \end{bmatrix} \Rightarrow \begin{bmatrix} \text{SUBJ}\ \langle \text{NP}_{lo} \rangle \\ \text{OBJ}\ \langle \text{NP}_{ao} \rangle \end{bmatrix}$

The linear precedence rule as stated in (6.18) will give rise to the order SUBJ (AO) APPL-PASS-VERB LO PP as exemplified in (6.42b) and illustrated in (6.43a) and

SUBJ (LO) APPL-PASS-VERB AO PP as shown in (6.42c) and illustrated in (6.43b). This is because the shuffle operator permits either the AO or the LO to be least oblique resulting in the two orders. In other words, it allows both to be subjects of a passive construction.

Given the type hierarchy and constraints just outlined, the rather complex set of specifications that we want to associate with a specific lexeme can be largely determined simply by associating the lexeme with the appropriate type in the lexical hierarchy. The section above shows that the syntactic aspects of the applicative construction are derived from the lexicon and the lexicon provides this information.

The preceding sections have been a proposal of a lexicalist theory for the Chishona syntactic properties within HPSG. These lexical constructs, together with small sets of principles allows us to derive a simpler and coherent account of the symmetrical phenomenon of the Chishona applicative construction without recourse to theta roles or the asymmetrical object parameter as explained in Chapter 3. The use of the shuffle operator and linear precedence rule nicely explains symmetries found within Chishona applicative constructions.

6.5 The Asymmetrical characteristics of the applicative arguments

6.5.1 Word order

As has been shown in the preceding section, given the shuffle operator and the semantic contribution of the applicative suffix, we can shuffle any of the two objects and maintain the same reading. As a consequence, we concluded that the two arguments behave in a similar manner, symmetrically in terms of word order, object marking and passivisation. However, as shown in Chapter 2, when animacy is equal (animate or inanimate) the two objects behave in an asymmetrical manner. As concluded in Chapter 2, the two objects associated with the applicative construction are fixed to occur in the order AO LO. The position immediately after the verb is constrained to being an AO position. This has been referred to as TRANSITIVITY ORDER (Wald 1993). As indicated in the previous section, the assumption was that the two objects in terms of occurrence are unconstrained modulo animacy factors. However, when animacy is a factor the order of the two objects is constrained. This can be captured by the linear precedence rule constraining the order of postverbal objects to be that of obliqueness. What is required is some way of constraining the shuffle operator just in case there are two objects whose animacy is the same.

In order to facilitate talking about the co-occurrence of two objects equal in animacy in multiple object constructions, I will posit a new list value feature, consisting of the sum of the SUB and OBJ values. ARG-ST (henceforth ARG-ST)[8] list corresponds not to the surface order but rather to a version of the traditional obliqueness hierarchy. Thus subjects appear first (leftmost), followed by other arguments in the order, first object, second object, then oblique and so on. Ordering is similar to obliqueness order which corresponds closely to the semantic roles of the objects. Within the ARG-ST list the relative order of elements matters since it is based on semantic (rather than syntactic) obliqueness[9].

The shuffle operator utilised in the Section 6.4 also allows co-animates/co-inanimates to be ordered freely with respect to each other. However, as shown in Chapter 2, such free ordering results in a different interpretation altogether when animacy is equal as illustrated in the following examples:

(6.44) a. Jefta a-ka-vez-er-a zvi-garo tafura
1a-name 1SM-PST-carve-APPL FV 8-seat 9-table
'Jefta carved a table for the seats'

b. Jefta a-ka-vez-er-a tafura zvi-garo
1a-name 1SM-PST-carve-APPL FV 9-table 8-seat
'Jefta carved seats for the table'

This would seem to be a serious problem for an analysis of the applicative construction as involving the shuffle operator in Chishona (rather than the append in Chichewa). However, we can use ARG-ST to constrain the order of AO and LO in the OBJ list when both are equal in animacy. This is shown in (6.45).

[8]The level of argument structure is controversial within the HPSG literature. Researchers can not come to a consensus as to what the role of the argument structure (ARG-ST) is. There is a divide, one school of thought sees it as a linking level(Davis 1996) and (Wechsler 1995) while the other school views it as a binding level which is purely syntactic in nature(Manning 1994), (Manning & Sag 1998), (Manning, Sag & Iida 1999)

[9]Within HPSG this feature has also been used to analyse passivisation and causativisation, as shown by Manning and Sag (1998), Manning & Sag (1999), Manning (1994) and Manning et al. (1999), since these constructions are said to have embedded events within them and this cannot be clearly captured by the valence list. Also, in instances of pro-drop languages, where arguments which are syntactically unexpressed nonetheless play a grammatically significant role. Given this evidence as to why we need to dissociate the VALENCE list from the ARG-ST, I will use the feature ARG-ST to account for the asymmetrical nature of the applicative arguments when animacy is equal

(6.45) The animacy constraint

$$\begin{bmatrix} \text{OBJ} \langle\ \text{NP}_{\boxed{1}}[\text{AN}\boxed{3}] \ll \text{NP}_{\boxed{2}}[\text{AN}\boxed{3}]\ \rangle \\ \text{ARG-ST} \langle \ldots\ \text{NP}_{\boxed{1}} \ll \text{NP}_{\boxed{2}} .. \rangle \end{bmatrix}$$

The important thing to note here is the difference between the OBJ list which encodes the number, type and relative grammatical obliqueness of the object of a verb, while the ARG-ST encodes the number, type and relative semantic obliqueness of all arguments of the verb (i.e. including subject and obliques). The ARG-ST values are not manipulated by grammatical processes unlike OBJ. Hence, 6.45 ensures that whenever one object is semantically more oblique than the other then it is also more grammatically oblique whenever animacy is equal. The constraint in 6.45 thus disallows the order SUBJ V LO AO with co-animates, since AO $\ll$ LO in all cases is goal $\ll$ theme.

Given the constraint in (6.45), the first object on the OBJ list or the second argument in the ARG-ST is always the AO as illustrated in sentence (6.46) and exemplified in structure (6.48):

(6.46) Pius$_i$ a-ka-rov-er-a va-sikana$_{AOj}$ va-komana$_{LOk}$
1a name 1SM PASTbeatAPPL FV 2 girl 2 boy
'Pius beat the boys for the girls'

Where $\boxed{2}_j$ is AO and $\boxed{3}_k$ is LO by the grammatical relations hierarchy in (6.17) repeated here as (6.47).

(6.47) SUBJECT$\ll$APPLIED OBJECT$\ll$ LOGICAL OBJECT$\ll$OTHERS

(6.48)
$$\begin{bmatrix} \text{SUBJ} \left\langle \boxed{1}_i \right\rangle \\ \text{OBJS} \left\langle \boxed{2}_j\ \boxed{3}_k \right\rangle \\ \text{ARG-ST} \left\langle \boxed{1}\text{NP}_i \boxed{2}\text{NP}_j \boxed{3}\text{NP}_k \right\rangle \end{bmatrix}$$

This yields one result, the object that is adjacent to the verb is the applicative object. The contrast between (6.49a) and (6.49b) illustrates this point:

(6.49) a. Vimbai a-ka-rov-er-a va-sikana va-komana
1a name 1SM PASTcookAPPL FV 2 girl 2 boy
'Vimbai beat boys for the girls'

b. Vimbai a-ka-rov-er-a va-komana va-sikana
1a name 1SM PASTcookAPPL FV 2 boy 2 girl
'Vimbai beat girls for the boys '

In conjunction with 6.45 the LPR constrains the object that occurs immediately after the verb as the applied object as shown by the two interpretations of the two sentences when we swoop them around. Thus we constrain the shuffle operator in the sense that whichever object it shuffles in the first position after the verb is interpreted as the applied object. In short, the two objects are constrained syntactically to occur in this fixed position. This syntactic behaviour is reminiscent of Chichewa data given in section (6.4).

6.5.2 Object marking

What has been said above follows through to the object marked instances. Hence as in word order, it is the applied object only that can be object marked as stated in the constraint: The object that is interpreted as the applied object in the ARG-ST is the one that can only be object marked when animacy is equal.

Thus sentence (6.50) has the feature structure in (6.51):

(6.50) a. Sekuru va-ka-vez-er-a tafura chi-garo
1a-grandfather 2aSM-PST-carve-APPL-FV 9-table 7-chair
'The old man carved a chair for the table'

b. Sekuru va-ka-i-vez-er-a chi-garo
1a-grandfather 2aSM-PST-carve-APPL-FV 9-table
'The old man carved a chair for it'

(6.51)
$$\begin{bmatrix} \text{SUBJ} \left\langle \boxed{1}_i \right\rangle \\ \text{OBJS} \left\langle \boxed{3}_{LO} \right\rangle \\ \text{ARG-ST} \left\langle :, \boxed{2}\text{NP}_{[pro]AO}\ \boxed{3}\text{NP}_{LO} \right\rangle \end{bmatrix}$$

Because of the animacy constraint which only permits AO $\ll$ LO order, it follows that the first element on the ARG-ST list is the one which has access to pronominalisation.

6.5.3 Passivisation

What holds above for pronominalisation and word order is also true for passivisation. We imposed the constraint on identical ordering in OBJ and ARG-ST when

two NPs have the same animacy to ensure that only the first object on the OBJ list or the second argument on the ARG-ST list gets passivised in such cases. The first object rule as developed earlier works pretty much in the same way as stated but here it makes it clear as to which argument can be passivised and it is the object which is the AO rather than the LO as given by the constraint: The object that is interpreted as the applied object in the ARG-ST is the one that can only be passivised when animacy is equal.

As shown in the sections above, since the animacy constraint rule and LPR constrains the AO to be the first on the OBJ list and therefore the second on the ARG-ST list, passivisation of the Chishona applicatives, in which animacy is equal between the two post-verbals objects, can yield only one result; the applied object and not the logical object becomes the subject. The contrast in meaning between (6.52b) and (6.52c) illustrates this point:

(6.52) a. Vimbai a-ka-rov-er-a Kundishora va-komana
1a-name 1SM-PST-cook-APPL FV 2-girl 2-boy
'Vimbai beat the boys for Kundishora'

b. Kundishora a-ka-rov-er-w-a vakomana na-Vimbayi
1a-name 1SM-PST-cook-APPL PASS FV 2-boy 2-girl
'The boys were beaten for Kundishora by Vimbai '

c. Va-komana va-ka-rov-er-w-a Kundishora na-Vimbayi
1a name 1SM PASTcookAPPL PASS FV 2 boy 2 girl
'Kundishora was beaten for the boys by Vimbai '

The subject in these two instances have the applied object role and this shows that it is only the applied object that has access to the passive subject position. It follows from the animacy constraint that passivisation strips out the first NP in the OBJ list or the second argument on the ARG-ST list.

This is a general constraint on multiple objects for the generalisation works for applicatives as well as simple ditransitives and tritransitive examples as illustrated by the ditransitive example in (6.53).

(6.53) a. Mayi va-ka-p-a mw-ana-sikana mw-ana-komana
1a-mother 2aSM-PST-give-FV 1-child-girl 1-child-boy
'Mother gave a boy child to the girl child'

b. Mayi va-ka-p-a mw-ana-komana mw-ana-sikana
1a-mother 2aSM-PST-give-FV -1-child-girl 1-child-boy
'Mother gave a girl child to the boy child'

In sum, animacy is a "remnant" of a possible asymmetry within Chishona in restricting objects to occur in a fixed manner. Notice that the theory proposed in this thesis does not treat the difference between asymmetrical and symmetrical objects as an all or nothing matter. While one may construe the parameter as being encoded in the use of the append or the shuffle operator, the fact that other constraints may be operative elsewhere in the grammar means that we can straightforwardly account for the fact that languages show variation in how much symmetry or asymmetry is displayed. In this way, the analysis proposed here is superior because it si descriptively more adequate to the analyses discussed in Chapter 3.

6.6 True Goals

As shown in Chapter 3 and 4, we have instances in which a goal applicative does not change the valency of the verb. These examples were considered to be problematic for valency increasing analyses. The relationship that exists between the non-applicative goal construction and an applicative one is explained in terms of a structure sharing relationship. The addition of an applicative suffix to such instances result in an oblique construction being internalised and becoming an obligatory element of the complex verb.

The relationship between the non-applicative form and the applicative form is accounted for in terms of unification. If two feature structures f_a and f_b are found to be describing the same object, we are in a position to describe this object by a new feature structure f, which combines the information from f_a and f_b: f is obtained by unifying f_a and f_b: $f = f_a \sqcup f_b$. Informally, the unification of two feature structures contains all and only the information in both feature structures. This can be defined algebraically in two steps; Unifying two feature structures F_a and F_b is to 'union' the two making sure that:

- the two initial nodes are made the same
- if a feature f appears in both feature structures in a consistent way, the feature appears only once in unification

De Paiva (1993:175)

This is illustrated below:

(6.54) $\alpha \sqcup \beta = \left[\alpha,\ \beta\right]$

$\alpha \sqcup \left[\alpha,\ \beta\right] = \left[\alpha,\ \beta\right]$

$\left[\alpha,\ \rho\right] \sqcup \left[\rho,\ \gamma\right] = \left[\alpha,\ \rho,\ \gamma\right]$

Given these basics, when it comes to Chishona data we have instances in which two feature structures describe the same event but are encoded differently. These are instances of true goals as explained in Chapter 4. This is illustrated by the following sentences in which (6.55a) is a non-applicative form and (6.55b) is an applicative form:

(6.55) a. Mayi va-ka-tum-a mw-ana ku-na mbuya
1a-mother 2aSM-PST-give-FV 1-child 17-ASS 1a-grandmother
'Mother send a child to grandmother'

b. Mayi va-ka-tum-ir-a mw-ana mbuya
1a-mother 2aSM-PST-give-APPL-FV 1-child 1a-grandmother
'Mother send a child to grandmother'

The CONTENT values of the two verbs will be as illustrated in : (6.56a)

(6.56) *tuma*⇒
$$\begin{bmatrix} \text{CONT|NUC|RELN } \textit{send} \\ \text{ARG1 } \boxed{1} \\ \text{ARG2 } \boxed{2} \\ \text{ARG3 } \textit{goal}_{\boxed{3}} \end{bmatrix}$$

tumira⇒
$$\begin{bmatrix} \text{CONT|NUC|RELN } \textit{send}_{\boxed{4}} \\ \text{ARG1 } \boxed{1} \\ \text{ARG2 } \boxed{2} \\ \text{ARG3} \begin{bmatrix} \text{RELN} \textit{goal} \\ \text{ARG1 } \boxed{4} \\ \text{ARG2 } \boxed{3} \end{bmatrix} \end{bmatrix}$$

Given the nucleus values of these two feature structures, we can see that the event being described is the same. When we talk of a goal we are talking about a relation. The goal in the *tuma* feature structure is a shorthand and it is really decomposed in the *tumira* example. The output feature structure is going to contain the following information as in figure 6.3

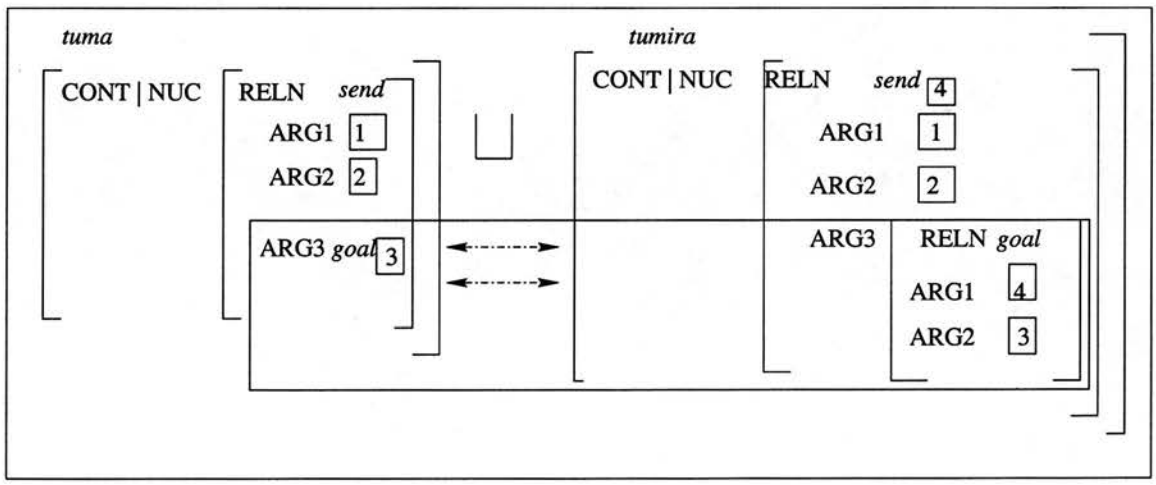


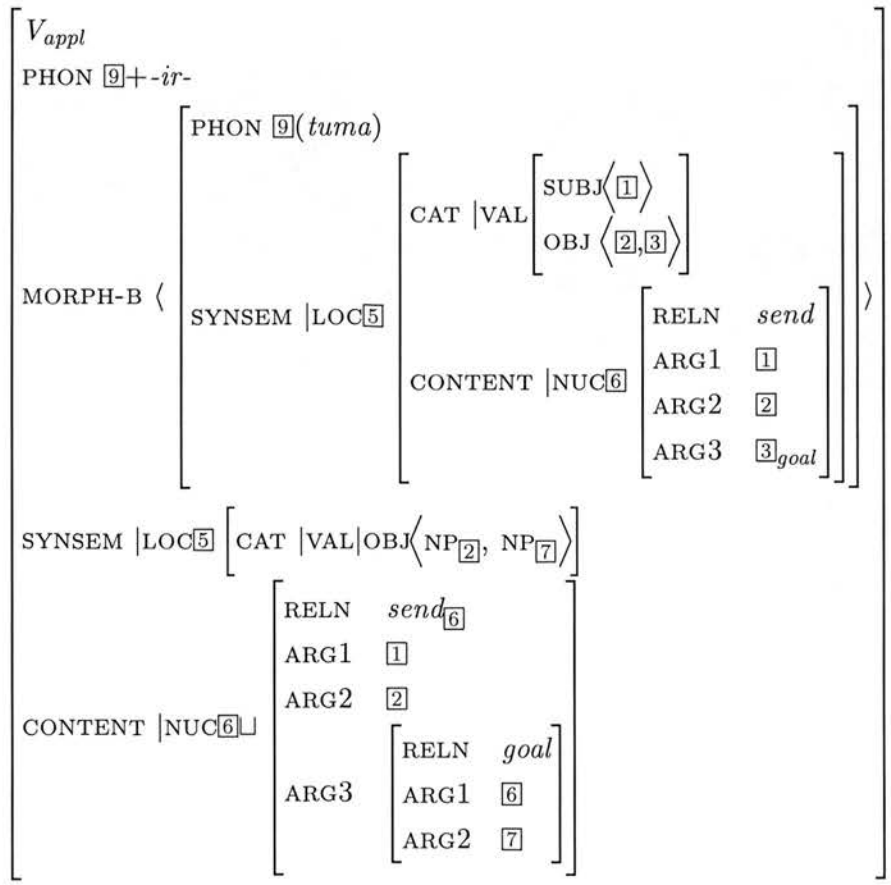
Figure 6.3: Unification of tuma and tumira feature structures

The two arrows in figure 6.3 illustrate the same argument that is structure-shared by the two verb forms which is therefore unified.

There is unification of the CONTENT value of the active verb with that of the applicative verb rather than an added on relationship as shown by typical applicatives. Unification entails merging similar information from two feature structure. Hence the unified feature structure of the sentence in (6.57) has the lexical entry in (6.58):

(6.57) Mayi va-ka-tum-ir-a mw-ana-sikana mbuya
1a-mother 2aSM-PST-give-APPL-FV 1-child-girl 1a-grandmother
'Mother send a girl child to grandmother'

(6.58)



⊔ shows the unification relationship that explains the relationship that exists between an oblique goal construction and one in which the oblique construction has been internalised to become an obligatory applied object rather than an optional one. While the analysis captures all the uniformities neatly, it does not really provide a satisfactory account of the behaviour of true goals. HPSG as a theory has not

developed means of accounting for adjunct internalisation. There is clearly work still needed before a better formalisation is produced.

6.7 Conclusion

The objective of this chapter has been to account for the diverse semantic interpretations associated with the applicative suffix as well as to account for the symmetrical and asymmetrical syntactic patterns of the Chishona applicative construction. The analysis presented in this chapter succeeds in capturing the diverse patterns of the phenomenon in question. The multidimensional nature of the HPSG *sign* and *type hierarchy* allowed for a flexible account of all the syntactic and semantic patterns of the applicative construction without any recourse to a single parameter which as shown in Chapter 3 could not explain the distributional nature of the applicative construction in Chishona. The analysis offered in this chapter is elegant and straightforward since it does not offer any complex operations, like mapping or head movement. A small number of constraints are enough to account for the wide range of data given in this thesis.

In section 6.2, I presented Riehemann (1998)'s analysis of Type-based derivational morphology (TBDM) which is formalised in terms of recursive schemata structured in a multiple inheritance hierarchy without positing lexical rules or entries. TBDM expresses the relationship between an input form and the resulting complex output and makes precise exactly which properties are shared in each case and which are not. Riehemann demonstrates that the German *-bar* adjectives are integral lexical morphemes compounded from two word forms, the transitive verb and the *-bar* morpheme. She sees *-bar* as neither a suffix with its own lexical entry and strict subcategorisation information, nor is it seen as just phonological material added by a lexical rule. Instead it is seen in terms of a schema arising as a generalisation about existing *-bar* adjectives in the lexicon.

Section 6.3 employs (Riehemann 1993)'s TBDM on Chishona applicative constructions. From this section it can be seen that the applicative morpheme has no independent lexical entry, but is articulated as a general schema in the type hierarchy of verbs. This schema contains phonology, which is some function of underspecified V-*r*-, the applicative morpheme, a shuffled-in extra object and the morphological base is a template for the phonology and content of the matrix verb. In other words, the Chishona applicative verbs are integral lexical morphemes compounded from two verb forms, the contentive verb and the applicative morpheme. The applicative

verb emerges from the lexicon with a shuffled argument resulting in an increased valence over that of the contentive verb. This section in brief provides the manner in which the applicative verb is formulated in Chishona.

The symmetrical parameter within the theory provided here reduces to the use of shuffle and append. What my analysis is saying is that;

1. When a language is defined as asymmetrical it entails the $\oplus$ operator & Linear Precedence Rule (LPR), as exemplified by the Chichewa data.
2. When a language is defined as symmetrical it entails $\bigcirc$ & (LPR) as exemplified by Chishona data.

If the analysis stopped here then it would be just as simple as the ASYMMETRICAL OBJECT PARAMETER of Bresnan & Moshi which indicates that we only have two poles, the append pole and the shuffle pole. However, as shown by the Chishona data, this is not so. The advantages of the analysis proposed in this chapter is that it allows for the freedom to accommodate the intermediary stage that is found with Chishona data. Thus we find that we can account for the odd syntactic data as below:

1. Intermediate types $\bigcirc$ & LPR + extras. These are constraints that need to be stipulated.

A remnant in Chishona of asymmetry is given by a constraint between OBJ list and ARG-ST list. The use of the shuffle operator allows co-animates to be ordered freely with respect to word order. However, this will not be able to account for objects in which animacy is an issue and hence I provided an extra constraint that stated that when animacy is equal, then the obliqueness of the two objects within the OBJ list must match the obliqueness expressed in the ARG-ST. The animacy constraint constrains the two objects within applicative constructions to be fixed to AO LO order only. The order LO AO is not permissible.

The analysis provides a much better handle on the symmetrical parameter than that provided so far because although we have differences according to the two operators, we have an intermediate level and HPSG as a theory is flexible enough to accommodate these exceptional cases. The intermediate level does just not mean the constraint between the OBJ and ARG-ST list, it can also mean constraints to do with the verb itself or even possibly the content itself. This is left for future work, to see how asymmetries come about in a symmetrical language. This shows

that the shuffle operator or the append operator is not a be all and end all operator but allows for in-between data that is not accounted for Bresnan & Moshi's object asymmetrical parameter.

The semantics of the applied object is very underspecified as a generalised goal. It was shown that through pragmatics/extra contextual inferences we will be able to instantiate the right interpretation associated with the applicative construction. Three relations came out of this underspecification:the relationship between the event within the construction and the applied object;the relationship between the logical object and the applied object and then the relationship between the speech act and the applied object.

The significant contribution of this analysis is that it is descriptively more adequate than the accounts provided so far and handles the data in a straightforward and elegant manner. As shown by the thesis, we have a whole range of different types of applicative constructions but this theory reduces all these types to a single underspecified semantic construction. Moreover, we have two syntactic patterns associated with Chishona applicative constructions which can be accounted for by the shuffle operator and the linear precedence rule and a stipulation of a few extra constraints to be able to account for the various patterns. It is because of the flexible and elegant nature of HPSG as a theory that we can accommodate all the complex issues using two operators and a few set of constraints in order to cater for the oddities of Chishona applicative data. This provides a general and simple analysis of Chishona applicative verb constructions, with oddities accounted for.

Chapter 7

Concluding Remarks

The main objective of this thesis has been to analyse the different semantic interpretations and the different syntactic patterns of the applicative verb in Chishona. The thesis set out to explore how and why a purely syntactic analysis of the applicative construction fails to capture all the properties of the applicative construction in Chishona. Beneficiary, maleficiary, motive, goal, locative and source applicative constructions are considered in the literature as syntactically and semantically distinct phenomena. In this thesis I showed that the semantic properties of these different interpretations and the different syntactic patterns can be captured by a single semantic/syntactic mechanism. Such a conclusion reduces the grammar of the applicative construction greatly since the different interpretations of the applicatives and the different syntactic patterns found in Chishona may be replaced and accounted for by a single construction and a few set of constraints.

In this thesis I have explored what are referred to as prototypical applicative constructions (defining the nature and scope of the applicative phenomenon)-that is applicative constructions with a beneficiary construction. Two interesting points emerged from Chapter 2: (i) the two objects found in the applicative construction are both direct objects when animacy is not an issue (ii) double object constructions are not just sensitive to syntactic organisation of the two objects but to semantic/discourse factors such as animacy. It was shown that when we have two co-animates in a construction then only one object has access to direct objecthood properties. This showed that the two objects are not exclusively dependent on the syntactic organisation of the sentence, but is dependent on other factors as animacy.

Chapter 3 showed the shortcomings of over concentrating on a syntactic analysis by a survey of the literature on applicative constructions. The syntactic structural

movement analyses proposed by Baker (1988) and Marantz (1993) are problematic for Chishona data. It was shown that in Baker (1988)'s analysis, Chishona is not an incorporating language at all as shown by the existence of locative and goal applicatives and above all by the non-existence of adjunct beneficiary phrases. Marantz's predictions were also not borne out on Chishona data. Valency-increasing proposals have problems when accounting for goal applicatives which have alternative oblique constructions. Chapter 3 also showed that a lexical functional approach as proposed by Bresnan & Moshi (1990) had shortcomings when faced with Chishona data. Some of the predictions that the theory makes cannot account for Chishona data. The most clear example being the effects of animacy. The ASYMMETRICAL OBJECT PARAMETER (AOP) as proposed by Bresnan & Moshi is based on purely syntactic assumptions with two discernible poles, either a language is asymmetrical or it is not. Chishona however, it was concluded was both a symmetrical and asymmetrical language when animacy was taken into consideration. Given this dual nature of applicatives in Chishona, I proposed that the AOP is not a parameter at all but should be seen as a continuum because it is the result of an interplay of factors.

The major contribution of this thesis was given in Chapter 4, in which I concluded that the semantics of the applicative suffix is very underspecified as a *generalised goal*. The data analysis presented in Chapter 4 showed that the applicative suffix conveys a wide range of meanings apart from the prototypical beneficiary meaning and that all these meanings are systematically related. This relationship is motivated and not random. The polysemous nature of the suffix was reached by showing how the various interpretations of *-r-* (with the vowel underspecified) were related. The different instantiations are a consequence of the semantics of the predicate, the semantics and properties of the applied object and extra inferential context. The single semantic construction analogy was reached by first concluding that the beneficiary and the maleficiary are both an instantiation of one macrorole, which I termed **adficiary**. What differentiates these two is whether the predicate is positive or negative:if it is the latter then it is maleficiary and if the former, then it is beneficiary. Second I showed how the adficiary is related to the motive role. The pragmatics of the applied object was used as a pole of distinction; whether the construction is adficiary or motive. Motive applied objects are inanimate while adficiaries are animate. However, though this is true it was concluded that both roles defined **potential goals**. Since all the roles are a definition of some goalish phenomenon, it was shown how a goal is fitted in. The difference being that a goal is a true goal while the other types are potential ones.

Then I used the question-answer test to accommodate locative and source applicative constructions. This test highlighted the fact that these two are discourse focus constructions. The effect of a discourse focus construction is to emphasise/highlight the locative/source relation expressed by the predicate as indeed is the case with applicative goals. This lead neatly to the realisation that we have two types of goals EVENT GOAL and DISCOURSE GOAL.

Applicative relations were shown to be defined at three levels, (i) the relationship between an event and an applied object; (ii) a relationship between a logical object and an applied object and (iii) a relationship between a speech act and the applied object.

Another contribution of this thesis, is in the use of the HPSG theoretical framework. In choosing HPSG as a formal representation, I have shown in chapter 6, that the different semantic interpretations and the different syntactic patterns and semantic patterns can be represented in the type hierarchy. To make this work formally, I came up with a productive applicative schema in which the *goal* relation is underspecified in the CONTENT attribute. The CONTENT value of the applicative verb is given by the addition of a goal relation to the semantics of the base verb. We find within this value, a definition of two participants, ARG1 which is an underspecified value while ARG2 is specified as a goal, the applied object. ARG1's index is determined by pragmatic principles and not specified within syntax/semantics. The different interpretations of the applicative verbs are accommodated in this schema if they are maximally underspecified as a generalised goal. The very general and salient feature structure given for the applicative construction accounts simply for how a Chishona applicative is formulated and the different semantic types are instantiated by pragmatics.

The shuffle operator and the linear precedence rule (LPR) accounted for the symmetrical nature of the applicative constructions neatly. It was shown that the LPR gave rise to two orders S V AO LO and S V LO AO and because of the availability of the shuffle operator, it allowed for both AO and LO to be least oblique, resulting in the two orders being acceptable and trickling down to passivisation and animacy. This thesis concluded that the shuffle operator is not an all or nothing parameter, but smaller sets of constraint that interact to account for the observed data.

One further interest for this thesis is the fact that under certain conditions, the interpretation of the two objects found in the applicative construction, is not exclusively dependant on the syntactic organisation of the sentence, but interpretation is

also sensitive to other non-syntactic factors-animacy in this case has been shown to play a role in the determination of the interpretation of the applicative sentences. Such data provide evidence to show that there is a middle ground associated with the applicative constructions, which the AOP is unable to accommodate as shown in Chapter 3. The middle ground includes examples in which the applicative objects behave asymmetrically. These are the examples that led to the conclusion that Chishona is both a symmetrical and asymmetrical type of language. In order to accommodate such data HPSG allows greater flexibility by providing means for us to stipulate extra constraints. Remnant in Chishona of asymmetry is given by a constraint of identity between the OBJ list and the ARG-ST list given as the animacy constraint. Because the shuffle operator allows for the existence of two orders, this extra constraint stipulated that when animacy is equal, then the obliqueness of the two objects within the OBJ list must match that of the ARG-ST list. The word order of the two objects is thus constrained to be AO LO. This in turn means that it is only the applied object that can be passivised and object marked.

The approach developed in this thesis handles the data in a much better way than what has been stipulated so far. The analysis provided here follows from general constraints on the syntactic and semantic patterns of the applicative verb. The difference between the AOP and the head movement analyses is that the approach proposed here realises that we have a middle ground- that Chishona applicative constructions have dual properties-asymmetrical properties and symmetrical properties. The proposal provided in this thesis is descriptively more adequate since it recognises and accounts for all the constraints associated with applicative constructions.

The empirical claim to be contemplated in this thesis is that arguments found in applicative constructions are unordered and this requires further work in other Bantu languages to test if this is true. This is left for future work.

It was shown that Chishona systematically excluded instrumental applicatives. Even if this is so it can be speculated that the schema given for Chishona applicative can be used to account for the instrumntals in languages that have them. It will be a pragmatic choice on the part of the speaker as to whether it is an instrumental applicative or a goal applicative.

Clearly more work is still needed on accounting for the different types of asymmetry. Also there is need for further work to see how applicative constructions co-occur with other extensions such as the causative. Moreover, applicative suffixes are also

used in creating deverbalised nouns and also verbalising ideophones. Since the aim of this thesis is to get to the real root of the semantic function of the applicative suffix these issues need to be taken into consideration. This is left for future work.

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